

# MODERN MANAGEMENT FOR THE CITY OF NEW YORK

## Volume II



Report of the  
Mayor's Committee on  
Management Survey



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# MODERN MANAGEMENT FOR THE CITY OF NEW YORK

## Volume II

Report of the  
Mayor's Committee on  
Management Survey



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<sup>1</sup> Resigned October, 1952

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## CHAPTER I

# The “Grand Examination”

The 16 survey projects of the Mayor's Committee on Management Survey comprise 62 separate studies and hundreds of supplementary and supporting analyses. Taken together, they represent the most comprehensive single examination ever made into the business management of the multitudinous, complex, and ramified operations of the City of New York.

The Reports of the studies, not counting the supporting monographs and documents, total well over 10,000 pages and furnish complete documentation for the sweeping conclusions of the Committee as presented in Volume I of this Report. These studies offer testimony that the Committee, in reaching its basic findings and recommendations on broad matters of policy, organization, and procedure, rests upon extensive research and intensive field work, as well as upon its own collective judgment and experience.

It is the purpose of this volume to give the reader a relatively brief but nonetheless comprehensive digest of the Reports as submitted to the Mayor's Committee by its consultants, special project teams, and experts retained on

the Headquarters Staff. The sequence of the material follows that of the list at the conclusion of the present chapter, with omissions of supporting and subsidiary monographs and Reports where such material is substantively included in the parent Report digested. (The “highlights” presented in Chapters II and III follow the same sequence.)

Digests of all Reports belonging to a single project are grouped into one chapter—thus there is a chapter on Finance, one on City Planning, one on Personnel, and so on. In every case, a chapter of digests opens with an Editorial Note. This tells the reader what studies formed the basis for the chapter, how the studies hang together and, importantly, the significant points whereon the final action of the Mayor's Committee departs from the recommendations of the experts. The reader, thus forewarned, can then examine the material on the basic Reports in the proper perspective. Finally, each chapter closes with a section entitled “Action of the Mayor's Committee,” giving in full the formal expressions of the Committee.

It is emphasized that responsibility for the digests rests with Headquarters



Staff, and not with the experts. The "by-lines" merely serve to identify the original Reports for which alone the Report authors assume responsibility. On technical phases, the Staff made a special point of checking with the authors, almost all of whom found it possible to participate in the drafting of the digests, so that the faithfulness of the material to the original documents can be vouched for.

The digests are complete in that no subject germane to the argument was deleted. Nor were the original documents tampered with in the sense of adding to or correcting the text in the light of subsequent information, without appropriate notation. Editorial notes throughout call attention to changes from the original Reports requested or approved by the authors themselves. These notes also bring statistical material up to date (usually through 1952), correct computational and other errors of fact discovered in the original, and point out and seek to reconcile differences in opinion or interpretations set forth by the authors of other Reports or by the Mayor's Committee.\*

### Concept and Organization

The inquiry was organized to effect an orderly, businesslike examination of the more significant operations of the City government, on the premise that many of the modern techniques profitably applied in private competitive administration are applicable to public administration, recognizing that there are also significant differences in basic objectives, primary motivations, and detailed techniques and controls. Appendix D of this volume presents a detailed

list of individual survey contracts. The Preface of Volume I and the editorial notes in the following chapters indicate how the various fields of study were organized. A list of the Committee's own subcommittees appears on page iv. These subcommittees exercised general supervision over the several studies.

### Action on the Reports

Formal statements labeled "Action of the Mayor's Committee" are presented as the concluding section of each of the digest chapters in this volume. These are succinctly formulated conclusions and recommendations, designed not to marshal arguments or background information in support of the findings, but rather to focus attention upon the specific actions that must be taken by responsible officials if the improvements and economies are to be realized.

It is to be noted that in numerous instances the final action of the Mayor's Committee does not parallel the recommendations of the consultants, the views of the latter often having served as a starting point for very thorough additional discussions and interpretations of fact. In certain instances, situations uncovered by the consultants warranted emergency action, and the Mayor's Committee accordingly forwarded the pertinent recommendations to the Mayor as special "Action Documents." Such recommendations are incorporated in the final "Action of the Committee" statements. They cover recommendations for administrative reorganization in the school system, topside reorganization of the Fire Department, proposed review by the National Board of Fire Underwriters of suggestions for redistribution, elimination, and proper equipping of fire houses, and recommendations on new sources of water supply.

\* Budget figures quoted in the general introductory Editorial Notes do not attempt to include apportioned cost-of-living salary increases, given in a lump sum in the 1952-53 budget.



It should also be pointed out that through the co-operation of key commissioners many of the recommendations developed by the engineers were implemented during the course of the study. This situation obtained especially with respect to the Police Department, many of the management recommendations made in connection with the Fire Department, the whole records management program, significant portions of the recommendations on education, and many of the recommendations of the management study on transportation.

### List of Projects and Reports

The studies viewed as a whole may be grouped into two broad categories: "horizontal" studies and "vertical" studies. Horizontal studies are those which cut across departmental lines, and in general affect the City as a whole. Studies on basic fiscal problems; on examination, recruitment, and other matters pertaining to City-wide personnel administration; on a general program

of records management; on the problems of inspections and licensing, and the like are in this category. Vertical studies cover individual departments or operations, such as studies of the management of the school system, or studies of the Fire Department, Police Department, transportation, water supply and the like.

The following list is comprehensive, including all the Reports, special analyses, and monographs produced in the course of the survey. Some of these, because of the importance of the subject or because of certain special distribution desired, have been separately printed. However, most of the final Reports of the consultants were submitted in limited quantity to the Mayor's Committee. These were made public, with the stipulation that they were reports to the Committee. As previously stated, all Reports are digested in this volume with the exception of subsidiary Reports and monographs whose over-all conclusions are contained in the parent Reports.

## PROJECT REPORTS

*(D—digested in this volume; SP—separately printed; NP—multilithed, mimeographed, or manuscript format, not separately printed in quantity.)*

### "HORIZONTAL STUDIES"

#### Finance

*Robert M. Haig and Carl S. Shoup* (see Chapter IV)

The Financial Problem of the City of New York, General Summary Volume, June, 1952 (D; SP).

Expenditure and Revenue Trends in the City of New York, Preliminary Report, January, 1951 (NP).

The Revenue Problem of the City of

New York and a Proposed Program, November 1, 1951 (NP).

Fiscal Independence for Public Education in the City of New York, December 3, 1951 (D; NP).

The Retail Sales Tax—Should Its Legal Impact be Placed on the Seller? December 17, 1951 (NP).

Technical Monograph Number One, The Municipal Debt, by Frederick L. Bird, October, 1951 (SP).



Technical Monograph Number Two, Municipal Income Taxation in the United States, by Leon Jay Quinto, May, 1952 (SP).

Technical Monograph Number Three, The Revision of the Rapid-Transit Fare Structure of the City of New York, by William S. Vickrey, Feb. 1952 (SP).

Technical Monograph Number Four, Budgeting and Financial Administration of the City of New York, by A. E. Buck and Associates, October, 1951 (SP).

Technical Monograph Number Five — Adapting Subway Service; and Number Six—Subway Fare Decoder by William S. Vickrey, April, 1952 (NP).

Technical Monograph Number Seven, Revenue and Expenditure Trends in the City of New York, May, 1952 (NP).

Technical Monograph Number Eight, Intergovernmental Fiscal Relations and the City of New York, by Jackson R. E. Phillips, July, 1952 (NP).

The Case for the Overnight Parking Charge, by Lyle C. Fitch, April 23, 1952 (NP).

## City Planning

*John D. Millett* (See Chapter V)

The Administrative Role of the City Planning Commission in the Top Management Structure of New York City, March, 1952 (D; NP).

## Personnel

*Co-ordinated by Headquarters Staff* (See Chapter VI)

Classification and Compensation of the Service of the City of New York: Volume I, Report of Transmission Schedule of Proposed Pay Scales and Supplements; Volume II, List of Proposed Classes (bound as one book), by Griffenhagen & Associates, September 29, 1951 (D; SP).

*Ibid.*, Volume III, The Definitions of the Proposed Classes, September, 1951 (NP).

*Ibid.*, Volume IV, The Suggested Allocations of Positions to Classes (NP).  
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## CHAPTER II

# Highlights of the Survey

## ... “Horizontal” Studies\*

The answer to the City's present dilemma of management does not lie in piecemeal solutions of a host of individual problems attacked as isolated challenges, important though such a continuous process of improvement is to any organization. And, as recent years have amply demonstrated, it does not lie in the crisis technique of stamping out fires wherever they flare up, always harried by the fear of a major conflagration. What is required is a stepping back to view the picture as a whole and to arrive at an orderly pattern for long-term solutions—not relaxing efforts to resolve immediate operating problems, but fitting priorities into a general coherent scheme.

That is what the Mayor's Committee has set out to do, and the lines of broad policy have been set forth in Volume I of this Report. It is the intention now to present a view in perspective, showing what basically comes out of the reams of experts' Reports—what all the

intensive, detailed work really adds up to.

The answer will be attempted by taking all the projects one after the other, just as they are reported upon in the following digest chapters of this volume, and distilling out of them the essence of what the examinations show the existing conditions to be, and what can and should be done about them. Again it must be emphasized that the highlights are based not only on the underlying Reports of the consultants, but also on later information developed for the Committee, on the reactions of City officials and other informed individuals and groups, on public hearings and discussions, and finally, on the deliberations of the Mayor's Committee. And it must be remembered that these final judgments are based on a review of all the Reports *as a whole*, for often matters which were the primary concern of one project team were also of collateral interest to others; since the problems were considered from different points of view, fringe comments of one

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\* Horizontal studies are those which cut across all departments. See page 3.



Report often throw additional light upon another.

In the present chapter, the horizontal studies are highlighted, and in Chapter III, the vertical ones. To help keep the activities under review in suitable perspective, brief thumbnail data are included as to size of operations, budget requirements, general setting in the City's organization, and the like.

In this connection, it must be recalled that Volume I of this Report sets forth specific recommendations for a broad reorganization of the City government, with the Mayor described as the chief executive of a "governmental directorate," with appropriate staff aides, including a Director of Administration, and strengthened operating departments. Recommendations are also made for parallel revisions of the budgetary procedure, setting up adequate salaries to provide for competent management, and establishing modern City-wide per-

sonnel administration, with all that this means in executive development and the creation of a responsive working force. These prime essentials of good management must be kept in mind in considering the lines of action indicated in the highlights from the individual surveys.

There is properly a widespread interest in the actual dollar economies which will result from the recommendations of the Mayor's Committee. Not all results can readily be translated into dollar terms, and many of the benefits that will accrue are of the "hold-the-line" variety in that they obviate the need for spending more money in a given department rather than making direct budget cuts. However, an attempt has been made at a dollar evaluation of the immediate and long-term savings that can be accomplished if a hard-hitting, organized attack is launched, properly backed and properly directed. This is presented in Appendix A.

## THE FINANCE STUDIES

Every administrative problem of the City—in schools and hospitals, welfare, traffic and parking, slums and housing, dirt and pollution, vandalism and crime, and City salaries—finds the limiting factor of effective action in the same intractable factor: the budget. If the money were there, great strides could be made toward solving any one of these problems of service and control. But without the money, the administrators have been finding it extremely difficult even to keep up standards in existing services. Thus, at the center of all of New York City's problems is the dominating problem of finance.

The City's total budget has more than doubled in little over a decade; it went

from \$684 million in fiscal 1940 to \$865 million in 1947, and to \$1,336 million in 1952. In 1953 it will be approximately \$1,469 million, an increase of 115 percent over 1940. The increased costs are due mainly to inflation; only a small part of the increase is attributable to the growth in population and to the expansion of municipal services.

The City's most important revenue source, the real estate tax, has not kept pace with rising costs. The real estate tax base will have increased from \$16.6 billion in 1940 to \$19.4 billion in 1953, a rise of only 17 percent. With an increase in the basic tax rate of about 14 percent, the real estate tax levy will have increased by approximately 33



percent. State and Federal aid and general fund revenues have risen relatively more than the increase in expenditures, but the increase has not been sufficient to take up the slack. Consequently, the City will be able to balance its 1952-53 budget only by a series of manipulations consisting mainly of borrowing from the future, and the prospect for 1953-1954 is another \$100 million deficit. With a further mild inflation, which now appears unlikely, the gap might even widen to as much as \$176 million.

The Haig-Shoup Report rejects the widely held belief that New York City is discriminated against in the allocation of State aid. While New York City residents bear a greater portion of State taxes than they get back in State aid, this is not discrimination since the purpose of State aid is to help equalize the burden of local taxes required to maintain certain levels of service, and the City's greater proportional share is due to its greater taxable capacity. Under current allocation formulas, increasing over-all State aid to New York City would actually result in a greater burden on City taxpayers than would an increase in local taxes to raise the same revenue. However, the consultants agree that there are certain specific areas, now largely locally financed, where the City is entitled to additional State grants or Federal grants paid through the State. These are in the fields of education and traffic services, and total over \$40 million.

The City's transit system finances have steadily deteriorated. In 1941, transit operations showed an operating surplus of \$27.8 million (exclusive of City-paid pension contributions). But in 1953 there will be an estimated operating deficit of \$32 million (and an

estimated additional \$13 million City-paid pension contributions) despite the fact that fares have doubled in the meantime.

Part of the City's financial problem can be met by the efficiency and economy program presented in this Report. This must be implemented by the City Administration to justify public confidence and to give the Legislature and the public generally solid grounds for going forward with the remainder of the program which the Mayor's Committee presents, including the outlined new tax measures.

But the public must understand also that there is no possibility of extensive net reductions from present budget totals, unless services are cut. New York has been forced to operate all its services, city, county, schools and transit, within the 2 percent limit, while all other cities in the State have had 4 percent to 6 percent limits for these purposes. The tax limit plus the pressure of inexorably rising costs have held the City of New York in a constraining financial straitjacket which has so restricted some costs of government that little more can be squeezed out now in response to the demand for "economy" by any ordinary processes. In fact in many services the squeeze has resulted in neglecting maintenance and activities to such an extent that increased expenditures are now imperative.

Compared with the almost \$2 billion budget which is involved,\* a major conclusion to be drawn from the independent outside management studies sponsored by the Mayor's Committee is that relatively little can be cut from the present operating budgets of the de-

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\*Adding the Board of Transportation and Authority budgets to that of the City.



partments, unless activities are reduced, in view of increased demands which swallow up savings effected, unless service cuts are made. The first natural result of these management recommendations is increased expenditures to be followed in succeeding years by better management and greater return for the dollar spent; better protection of the public for the taxes paid, but few net dollar economies except in terms of the avoidance of expenditures which would otherwise have been required had the modern methods of management not been installed.

This does not add up to immediate tax reductions, though it in no way justifies those City commissioners and employees who reject the Committee's economy recommendations because more money will be required for other activities. Regardless of the amounts involved, the taxpayers have a right to insist that the economies be made, and that a genuine drive for savings is in order.

The finance studies of the Mayor's Committee covered the various aspects of this problem, including the present tax system, the transit fare structure, and Federal-State-local financial relationships, and the Haig-Shoup Report has formulated a revenue program designed to meet the City's needs over the next several years. Several studies of the administration of the City's major taxes were also made, leading to recommendations which would considerably increase the revenues with no increase in rates. A separate study of the City's debt and debt administration concludes that certain savings could also be made by changes in debt administration.

One of the most important studies of the finance project concerns the existing

budget system and budgetary and fiscal controls, and makes recommendations for improvement.

As the City's budget increases, and administrators are confronted with increasing demands for more services and benefits, the need for an adequate system of budgetary and financial planning becomes ever more pressing. Administrators and the public must be able to weigh intelligently the competing demands against each other and against the desirability of raising tax rates or initiating new taxes. The City's budget system, devised 50 years ago to meet the needs and conditions of that time, is not designed to produce the information necessary for such decisions and for intelligent public evaluation either of issues or of administrative performance. The cure for this is a program budget.

The conclusions of the Mayor's Committee on Management Survey as to the financial program are set forth in Volume I, Chapter VII. The recommendations for future taxes and revenues are presented as alternatives, inasmuch as the final decisions rest with the City and State authorities, rather than with the Committee. But the Committee emphasizes that its recommendations on finance must be regarded as a single interwoven program involving: (1) a broad program of management reform; (2) an immediate program of economy; and (3) a long-range program of revenue and tax reform. Each element of this comprehensive program is dependent upon the other two. The program as thus presented rests on everything which follows in this volume.

In reviewing the revenue possibilities which are now open to the City, the Committee lists the following:



Increased licenses and privileges  
 Increased utility charges, especially  
   for water, ferry and transit  
 Restoration of the pari-mutuel tax  
 Increase of the real estate tax limit  
 Extension of sales tax to beer  
 Overnight auto parking charge  
 City personal income tax  
 Increased State-aid, particularly for  
   education, welfare and highways

The Committee opposes the adoption of the personal income tax at this time and presents the detailed description of various possible forms of the income tax which might be used by the City of New York, with Legislative authorization, as a matter of public information.

The Committee calls special attention both in its chapter on finance and in the

chapter on transportation to the heavy costs which the motorist throws upon the City. The Haig-Shoup study indicates that three forms of charge would seem to be in order: an increased contribution by the State to all cities for highway purposes, which might be financed with an increase in the State gasoline tax; an overnight parking charge of \$5 per month; and the extension of parking meters.

In placing these considerations before the City and the State, the Committee calls attention to the fact that certain of these revenues can be enacted immediately while others are contingent upon State and Federal action.

## THE STUDIES ON CITY PLANNING

If one were to strike a present-value figure of the worth of the physical plant which the City now operates the total would run into truly astronomical figures. Real estate appraisal of City-owned facilities alone is over \$4.3 billion dollars, excluding the Housing and Triboro Bridge Authorities and, of course, excluding equipment.

The 1952 capital budget for the City of New York totals \$470 million, representing a record high for the seventh successive year. And this total was reduced, under pressure of fiscal stringency, from the requests of departments of approximately \$972 million. Moreover, these figures do not include funds required for assessable improvements, estimated at some \$64.5 million for 1952. As to the immediate future, the presently proposed capital program for the five years 1953-57 amounts to some \$1,264 million. While the recent increases in the capital budget are obviously induced in substantial measure

by inflationary cost increases, and while a substantial portion of budgeted capital expenditures is not actually disbursed, these gross figures do reflect a continuing, inexorable pressure to expand the quantity and quality of services rendered.

The City's debt service amounts to \$268 million in the 1952-53 expense budget—some 18 percent of the total. In addition, it must be remembered that when a capital project such as a new hospital is completed, it must be maintained and operated; staff must be provided and materials and supplies must be made available, inevitably throwing additional load upon the expense budget.

It is clearly imperative that there be orderly, intelligent, and comprehensive development of long-term programs of capital improvement. How has the City been meeting that need?

While, as pointed out in the Millett Report on City planning, the real crisis in the capital plant of New York City



has little to do with planning procedures, being basically a crisis in finance, it must be stated that management organization and procedures to permit the most intelligent allocation of what funds there are, or the right sort of follow-through on translating appropriations once made into physical terms, have simply not existed. An outstanding illustration is the school building program, currently running at the rate of \$30 million to \$50 million per year. Many of the original determinations of school sites and types were seriously challenged and, until recently, the building schedule for which funds were already appropriated was hopelessly bogged down.

In general, the functions and status of the City Planning Commission as specified in the 1938 City Charter are satisfactory and workable, and need not be substantially altered. Organizationally, the Planning Commission is properly set up to do the sort of job expected of it. The trouble is that during the first dozen years of its life it was starved, budget-wise, and operated both at a relatively low level and in a vacuum. However, during the past two years it has been given substantial budget increases, making possible constructive staff reorganizations and additions.

Now that it does have more funds, the Commission must make the preparation of *master plans* a first-priority responsibility. Although it has been discussed for many years, progress on the "Master Plan"—which in reality must be a collection of interrelated plans—has actually been negligible. In this activity, the maintenance of the City map is only one part of what must be done. The Commission has recently made important forward steps in connection

with its zoning responsibilities, its 1950 revisions being the first comprehensive revision ever undertaken in this City.

Transportation is one example of the area in which the Planning Commission should move more vigorously in its master planning. It should assert stronger leadership in determining the direction of transit extensions, since it alone, as a central planning agency, is in a position to weigh adequately the community effects of such facilities, and the probable population movements and commercial and industrial developments.

The outstanding deficiency in the City's whole planning operation lies with the operating departments. The number of departments in the City now organized and staffed so that they can produce sound, well-thought-out, long-term programs is negligible. Until this basic organizational defect is rectified, no amount of central effort in mapping broad directions and collating departmental estimates will prove effective.

The statistical and general program research upon which major departments have been basing their capital estimates has been ridiculously inadequate, although (in part as a result of findings of the Mayor's Committee) improvements in many are already in progress. An important recommendation of the Mayor's Committee is that the commissioner of every major department should have a special high-caliber aide for programing, whose responsibility would be to crystallize the long-term goals of his department and to assemble, through the department's own engineering staff or with the aid of consulting engineers, the engineering and cost data necessary for the formal capital program to be presented to the City Planning Commission.



There must be not only more basic long-term departmental capital planning, but also much better determination of the operating and maintenance costs that will inevitably be incurred when proposed capital improvements are completed. In addition, certain capital budget procedures should be changed. For example, assessable improvements, such as streets, bridges, sewers, and parks, are not now part of the capital budget. Thus these improvements are not properly fitted into a broad scheme of City planning, and the picture is not presented as a unified whole. And, finally, because of the linkage of the capital budget with the expense budget through debt service and the later operating and maintenance expense, steps should be taken to integrate the two; the present practice of con-

sidering part of the City's budget needs in the spring, other parts in the fall, and then revising them during the course of the year, has been found to be without real justification, even though administrative difficulties of integration have been emphasized by Budget officials.

To protect the interests of the owners of some \$20 billion worth of real estate in the City, the Mayor's Committee recommends that the present Charter provision, under which 20 percent of affected property owners may protest a zoning regulation, be changed upward. The Mayor's Committee also recommends that the Mayor's Board of Management Improvement study the relationship between the City Planning Commission and the Bureau of the Budget in the formulation of the capital budget.

## THE PERSONNEL STUDIES

In 1900, the population of New York City was 3,500,000. Its civil servants (exclusive of teachers and all positions in the unclassified service) numbered only 30,000. In contrast, today the City's population is almost 8,000,000, and employees under the jurisdiction of the Municipal Civil Service Commission have reached almost 170,000. If, to complete the perspective, we add employees not under the Commission (thus including among others some 47,000 in the Board of Education and Board of Higher Education), the total reaches 222,000—or approximately one person on the municipal payroll to every 36 persons living in the City. It is not surprising, then, that the largest single item in the City budget is the total salary expenditure for personal services—about \$740 million, or approximately half of the total 1952-53 expense budget.

Obviously, any management survey must consider the question of responsiveness and productivity of this army of employees. Every one of the consultants engaged in the varied studies of the Mayor's Committee had to come to grips with this problem eventually, and all Reports have some comments—many of them highly critical—about the City's personnel policies and practices. Even the Reports on highly specialized technical studies, such as those on fuel utilization in City plants and on power supply in the Board of Transportation, join in this chorus, showing that these problems occur not in one or a few agencies, but in all departments and all activities of the City government.

The most continuously irritating of the personnel problems is the matter of compensation for employees. While pay is not the only problem in modern per-



sonnel administration, and its solution will by no means solve all the City's difficulties with respect to its working force, nevertheless it is a perennial one; in recent years it has been handled in an atmosphere of crisis and bickering and by means of patchwork measures that only partially met urgent demands.

The fault—as amply documented in the Griffenhagen Report—is that there has been no orderly system of position classification and pay. And admitting the handicap of having no adequate classification and pay unit in the Civil Service Commission, there has nevertheless been insufficient contact in this area between the Commission and the operating units. Instead, there has been a blind dependence of the Civil Service Commission on the lead of the Bureau of the Budget in matters of pay administration.

The big and very necessary first move toward the solution has been provided by the Griffenhagen study, despite the many criticisms of the Report as brought out in testimony before the Formal Hearings Board set up to weigh its merits. As recommended in the Report of the Formal Hearings Board, the City of New York should now go forward without delay to install a complete classification and pay plan. There is no reason to make more surveys or discuss the need further. Detailed next steps are set forth in the Report of the Hearings Board, and in Chapter IV of Volume I.

As part of its program of clearing up its chaotic compensation situation, the City should also review its entire structure of pensions and retirement. As shown in the Schechter Report, there are 16 pension systems, imposing different burdens on employees and providing

different benefits to them, thus adding to the inequities existing in classification and pay. (It is realized, of course, that changes affecting present members will have to recognize constitutional limitations.) Mergers and consolidations of certain retirement and pension systems and repeal of certain provisions will promote administrative economies. In view of the wide disparities in treatment of various employee groups and the heavy financial burden of the City, the City's share of contributions in behalf of new entrants into the Police and Fire Department pension systems should be reduced from 75 percent to 50 percent, and no new member of either pension fund should be eligible for retirement before age 45. At this point the Committee has gone beyond the suggestions of the Schechter Report to achieve City-wide uniformity.

Along with the above recommendations, immediate and effective steps must be taken to organize for sound, modern, central personnel administration, and to provide for organized personnel administration in the City's operating departments.

The Sayre-Kaufman Report points out, that the City government's machinery for personnel administration has changed almost not at all in the last five decades. The present Commission is seriously underfinanced, understaffed, and without requisite authority. Today New York City is not merely below the leaders in this phase of public administration—it is below the average. While the merit system has been firmly established, it is still far short of the mark. Some 50,000 positions (including exempt, labor, and noncompetitive classes, and provisionals) are still exposed to potential patronage control.



Very serious shortcomings as regards recruitment and examination, due in part to the underfinancing of the work, have been spelled out by the Richardson, Bellows, Henry & Company Report: on the average 18 to 21 months are required to select a new employee and put him to work (five times longer than for other big cities, and more than twice as long as for the State of New York), and the examinations are not up to standards observed in the better large public personnel agencies in the United States.

The basic steps to be taken to achieve the type of personnel administration commensurate with the magnitude of the City's operations have been outlined in Chapter IV of Volume I. Central to these proposals is the creation of a new post of Personnel Administrator, without term, to be filled by the Civil Service Commission with the approval of the Mayor. In addition, a director of personnel should be established in each major department, reporting to the head of the department, and there should be a Municipal Personnel Council, under the chairmanship of the Personnel Administrator, composed of departmental directors of personnel.

Once the basic organization moves have been made, steps can be taken to rectify the shortcomings in the City's policies and procedures as catalogued in the Reports, and specifically, the improvements in examination and recruitment practices called for in the Richardson, Bellows, Henry & Company Report can be effected.

Personnel administration is one area where the City must definitely spend appreciably more in order to get more. Revitalizing the Municipal Civil Service Commission, creating proper personnel organizations in operating departments,

and strengthening staff services with respect to training and labor relations will add immeasurably to sound management, City-wide.

It should be noted that in view of the shortcomings in personnel policies and practices pointed out by almost all the consultants, and the sharp criticisms of the present Commission itself set forth in the Reports dealing directly with personnel administration, differences within the Mayor's Committee arose; the recommendations detailed in Volume I represent a compromise solution. There is strong minority advocacy of having the Personnel Administrator report directly to the Mayor, with a five-man Civil Service Commission, paid on a nominal per-diem basis, devoting itself to rule-making and investigations. And in order to proceed vigorously with the next steps in the classification and pay revisions, it has been urged that the proposed classification unit be made semi-autonomous, pending reorganization of the entire personnel administration, rather than placing it under the Civil Service Commission.

In its study of examination and recruitment, Richardson, Bellows & Henry indicate that the present budget for the Civil Service Commission, approximately \$1 million, should be doubled. Considering the added suggestions for strengthened organization and procedures recommended by the Sayre-Kaufman and the Division of Analysis Reports, this estimate is a bed-rock minimum. In addition, salary increases in line with new classification and compensation will add many millions to the expense budget. This figure cannot be estimated now because of modifications to be made in the plan in the light of the Formal Hearings Board Report, and because a plan when finally adopted will be



superimposed upon the recent across-the-board percentage salary increases included in the 1952-53 budget. However, the City should be prepared to incur an additional payroll expense of \$6 million to \$10 million over and above the \$39 million budgeted in 1952-53 for

cost-of-living increases. Also to be kept in mind is the general recommendation set forth in Volume I for greatly strengthening top and middle management, which it has been estimated will add \$3 million to \$5 million to current personal service costs.

## THE STUDIES ON INSPECTIONS AND LICENSING

The 1952-53 budget shows estimated receipts from licenses and permits as \$4.6 million. However, fees going directly to certain pension and other funds bring the total to about \$9 million, or about 70 percent of the actual cost of regulation estimated by the Worden & Risberg Report as approximately \$14 million (although the latter figure itself is considered understated by 19 to 29 percent as it makes no allowance for pensions and other factors, nor for recent cost-of-living increases).

Many businessmen and civic groups have contended that there are too many inspectors from too many departments, and that less harassment could well be achieved by consolidation. Others have advocated consolidation on the grounds of efficiency and economy, along with other internal operational changes to cut costs. And in addition, while no one has advocated that license fees and permits should be considered primarily as a source of revenue, those interested in closing the City's budget gap have urged that the whole fee structure could be profitably re-examined.

The Worden & Risberg Report indicates that some \$1.6 million of savings should be readily available through greater operating effectiveness, with another \$600,000 as probably available. (Some of these savings, however—perhaps some \$500,000—would be realized

from certain specific procedural changes not endorsed by the Committee. For example, the consultants point out that in the Department of Health there is a possible saving of \$100,000 per year by the elimination of duplication of control of milk supply by City, County, and State authorities.

As for revenues, the Mayor's Committee has taken the position recommended in the finance study that fees should not be set so as to return a significant revenue over and above costs—with the qualification that where custom and trade practice have made a certain fee acceptable, it should not be reduced even if it is somewhat over cost. Worden & Risberg have recommended specific fee revisions estimated to net an increase of almost \$2.5 million, which, together with economies, should make the activity as a whole practically self-sustaining. The Division of Analysis of the Bureau of the Budget has drawn up its own schedule—in many cases based on cost estimates higher than those of Worden & Risberg—so that on the whole this phase of City revenues seems on the way to modernization.

With respect to large-scale economies obtainable from the consolidation of inspections and licensing, analysis shows that this problem breaks down into two fairly independent questions: that of



*license issuance*, and that of developing a *composite inspector* to combine various inspections into one visit. As for license issuance, the City of New York maintains various license issuance offices with unit costs running up to \$2 per license and over. The advantage of centralization of issuance lies mainly in the use of a fully mechanized routine. But for anything over 10,000 licenses a year, a figure of around 80 cents per license can be attained without mechanization. For large volumes of issuance—say, 60,000 licenses per year—full mechanization can save perhaps another 20 cents per issuance. The larger departments issuing licenses, such as Fire, Health, and Housing and Buildings, already have volume in this order of magnitude. Accordingly, Worden & Risberg advise that the City should first do everything in its power to attain a figure reasonably close to 80 cents (the Department of Health is already close to this) before even contemplating pulling all issuance out of the respective departments in order to centralize. Moreover, the Department of Licenses, which is the natural nucleus for a centralized license issuance agency, is in no shape to receive additional work. It must first be made a more effective operating unit itself.

As for composite inspectors, the Worden & Risberg Report indicates that certain combinations can be made effectively, for example between the Fire Department and the Department of Housing and Buildings. In addition, proposed elimination or simplification of certain types of inspectional activity, personal calls, or renewals would lessen the inconvenience to the public. It is emphasized that strong reliance must always be placed upon the professional department involved, and that many

types of inspections cannot basically be combined. Accordingly, aside from the few areas in which combinations or simplifications are recommended, the "composite inspector" is not warranted as a basic economy move in New York City. Especially where a volume of 10,000 licenses per year is reached, transfer of the issuance function to a central department away from the inspectional authority would be of doubtful advantage.

There is definite need for adequate inspection of all hospital facilities in the City, including those operated by the City; this inspection should be centralized in one agency, backed up by proper mandatory legislation. Both the American Public Health Association Report on the Department of Health and the Worden & Risberg Report recommend that this be centered in the Department of Health, since the Department of Hospitals now operates some hospitals, while inspecting hospitals operated by others. However, there is strong professional opinion that it should remain the responsibility of the Department of Hospitals. This matter should be given full and serious consideration by the Hospital Council, together with the Departments of Health and Hospitals.

A very serious situation was found in the Department of Housing and Buildings in connection with old construction. There are about 35,000 substandard one- and two-family dwellings, of which some 13,000 are totally unfit for habitation—and there are still 55,000 Old-Law Tenements, which the consultants estimate will take 80 years to replace at the present rate.

Of course, the long-range program of improving housing involves co-ordina-



tion between City, State, and Federal agencies, and the use of public and private capital. However, the specific management problem of the Department of Housing and Buildings in this connection is its so-called "hold-the-line" program, involving City regulatory inspectional agencies and landlord-tenant groups designed to keep the problem from growing worse. Unfortunately, the "preventive-maintenance" portion of this program was, at the time of the study, completely bogged down, largely through lack of sufficient personnel and poor scheduling and control of field work. The Worden & Risberg Report

urges a changeover from regulation by complaint to positive control, mapping out a concentrated attack on the backlog. Since issuance of the Report, important forward steps have been taken.

The Mayor's Committee disapproves the consultants' recommendations that the City accept casualty insurance company inspections in lieu of City inspections of elevators and boilers. Although this would purportedly have effected savings of approximately \$300,000 per year, the Committee did not feel that sufficient guarantees of safety would have been afforded under such a policy.

## THE RECORDS MANAGEMENT STUDIES

To anyone acquainted with operating problems in the various departments and agencies of this City, the need for an immediate and intensive program of records management is obvious from the point of view of space requirements alone. However, the following figures from the Department of Purchase give some insight into the potential immediate dollar return from a soundly conceived program: without giving effect to some of the large agencies in the City which do their own equipment purchasing, slightly over \$250,000 was spent for new filing equipment in the three-and-one-half years preceding the inauguration of the Mayor's Committee studies.

The cost of space utilized by this additional equipment during those three-and-one-half years was almost \$100,000. Thus the amount spent for new filing equipment and space in this period was approximately \$350,000.

Actual "pilot installations" of modern, scientific record-keeping in five selected

City departments resulted in outright disposal of 73 percent of the records: 47 percent sold as waste paper, 26 percent transferred to a greatly improved Records Center. The National Records Management Council Report estimates the savings achieved at slightly over \$200,000 for the first year (certain economies nonrecurring) and approximately \$100,000 annually thereafter, and further estimates a possible saving of \$4.3 million for the first year and \$2 million annually thereafter, if the installation is made City-wide. While the Committee has considered these figures inflated by high estimates for value of scrap paper (\$450,000 in the above \$4.3 million) and for salvage value of equipment, nevertheless that there are substantial economies in the making is indisputable. A City-wide program, using the pilot studies as a pattern, was activated by the Mayor's Committee and is being carried forward by the Division of Analysis of the Bureau of the Budget in collaboration with the Municipal Archives Committee. Progress



appears to be excellent. (In June of 1952, the Mayor awarded diplomas to 31 employees from 20 departments trained in records management by the Division of Analysis.)

The new development of the City Records Center was begun in the Rhineland Building in February, 1951, under the direction of the consultants, at a cost of \$26,800, including specialized equipment, containers, and supplies. The completed Center operation now uses only 7 percent of the space formerly required for storage of many fewer records. Moreover, the records stored are readily accessible, a situation which definitely did not obtain under the former storage by separate departments.

Property recording, which in New York City is the responsibility of the City Register's Office, is another activity where high dividends can be expected from modern records management. Real property instruments in the City Register's Office record property currently assessed at over \$19 billion. In addition, the Register records and files personal property transactions running into millions of dollars annually.

Except for the Bronx, the County offices of the City Register present a deplorable housing problem. Lack of space and insufficient floor load capacities are major items, especially in those areas housing real property libers. The possibility of enemy attack adds to the gravity of the situation.

Microfilming will greatly alleviate the space problem. However, the state of this mechanical development is not sufficiently satisfactory to make it desirable at this time to abandon present procedures entirely in favor of microfilming.

The National Records Management Council Report shows that many records can be destroyed, and that others can be preserved without microfilming.

All real estate transactions should, however, be microfilmed, and the film should become the basic record as soon as technical developments make this possible. All records now in process of microfilming should be processed also in at least one positive copy, so that there may be one copy—the negative—for security purposes, and a positive for more acceptable reference purposes.

Considerable objections to microfilmed copies of records have been raised in the past by the New York State Title Association. However, these complaints arose from the work conditions rather than the medium, and unfortunately, no change has been made in these conditions where microfilm is currently being used. These conditions are poor lighting, unsuitable readers, and insufficient attendant service — all readily correctable.

In the final analysis, the introduction of the Torrens System of registration would solve most of the problems of the Register's Office. Under this system, the title of each registered property becomes as certain and clear as a government bond, and may be bought and sold with no more formality or expense to the owners. However, the complete acceptance of the Torrens System in New York City has been the subject of much controversy for almost half a century, and no solution along these lines is imminent. Therefore, every effort must be made to apply the types of improved methods and techniques outlined in the National Records Management Report.



## THE OFFICE MECHANIZATION STUDIES

Some 38 agencies of the City (not including the Boards of Transportation and Education) have clerical staffs of 50 or more, involving a total of approximately 12,000 workers and an annual payroll of some \$40 million. Many of these employees are engaged in high-volume repetitive work naturally suited to mechanization.

The City has many thousands of office machines, most of which it owns. About \$650,000 a year is spent for equipment rental. The rented equipment is reasonably new, but many of the City-owned machines are quite old, some of them 25 to 30 years. Average age of the equipment is estimated to be about 12 years. Normal useful life of office machines is generally considered to be about 10 years.

A great deal of manual operation was found by Barrington Associates in functions which, in efficiently operated business, are usually extensively mechanized. And in departments which are mechanized, a high percentage of clerks operate billing, bookkeeping, and other machines whose operations are only semi-mechanized when compared with highly automatic machines now available for such work. While improvements have been made in various departments, the utilization of mechanization is generally spotty and unco-ordinated.

The engineers state that there is no organized program for replacing obsolete and worn-out equipment. This results in the consumption of excessive personnel time on slow, outmoded equipment, lost personnel time while waiting repairs, and excessive repair charges.

There are special opportunities for improvements in mechanization in connection with the billing and collecting

of real estate taxes, water charges, sewer rentals, special assessments, and special taxes, including City sales, business, occupancy, compensating use, personal property, utility, and others. To modernize these operations along the lines suggested by Barrington would call for integrating activities in the Tax Assessor's Office and in the Department of Water Supply, Gas and Electricity with those of the Finance Department.

The Finance Department has gone on record as opposed to the Barrington plan *in toto*, offering instead a plan of its own. It terms the potential reduction in clerical force postulated by the consultants "fantastic," and further challenges the practicability of using the high-speed addressograph and related equipment proposed.

Any outside group must fully appreciate the responsibility felt by those in charge of collecting and accounting for hundreds of millions of dollars of City revenue. Accordingly, no plan by outside engineers, however competent, should be forced on departmental officials, and any installation work undertaken must be based on closely controlled tests. However, the proposals and estimates in the Report to the Mayor's Committee were rendered by engineers of wide reputation in the office equipment field, and their proposals, which they were prepared to back up by assuming responsibility for installation, show too great a saving to be ignored. It is fully appreciated, of course, that the economies would be forthcoming only after complete installation, and that the installation and trial period might take as much as 18 months.

An additional factor to be kept in mind is that the Barrington procedures



would provide additional safeguards in collecting and accounting for special taxes. This phase alone requires careful check-up.

The Mayor's Committee has left the final determinations to be worked out by the Division of Analysis of the Bureau of the Budget, expressing confidence in the machine experts available to that Division, and calling for close work with manufacturers of the equipment involved in order to set up trial installations and test runs. However, it must be stated here very emphatically that the Barrington Report should definitely not be allowed to be shelved simply because of objections on the part of the department primarily involved. Special attention should be given to the possibility of using the high-speed addressograph equipment. Such high-speed equipment is basically the answer to reduction in expense.

Another area in which large-scale economies through mechanization are obtainable is in the Central Payroll Division of the Comptroller's Office. Economies are possible here not only through changes of routines, consolidation of operations, and further extensive mechanization, but also through three major changes in general payroll policy covering delayed payroll, changes in pay days, and splitting the semi-monthly payroll and establishing it on a 26-period per year basis.

While the Comptroller's Office is in general favorably disposed toward the major policy changes advocated, it entered strong reservations on the type of equipment recommended by the engineers, and the possibility of effecting the \$1 million annual economies claimed (largely to come through proposed reduction in clerical forces by 351), and has presented a counter-plan covering part of the operations, under which staff reductions of 48 positions would be effected. The Mayor's Committee has taken the same action as with respect to the Finance Department, placing final determination with the Division of Analysis of the Bureau of the Budget. However, here again it must be strongly emphasized that the engineers' plan should not be rejected without a very thorough investigation of the proposal, including trial installations and test runs and special attention to the modern high-speed equipment proposed and to equipment since devised.

In its third Report, on Selected City Departments, Barrington states that there is extensive duplication of fund accounting between the Comptroller's Office and the various departments. The possibility of concentrating all fund accounting in the Comptroller's Office and eliminating it in the departments should be thoroughly explored, along with the specific mechanization recommendations.

## THE FUEL CONSUMPTION STUDIES

The City of New York currently spends some \$10 million annually on fuel and purchased steam for heat and power in its various departments, exclusive of approximately \$15 million of fuel consumed in the power plants of the

transportation system. This huge item in the operating budgets is obviously worth close scrutiny, since engineering experience shows that boiler plant operation—especially where many relatively small installations are involved—is



usually susceptible of marked increases in efficiency.

Engineers familiar with City operations have advised that an appreciable number of the heating and power plants are old, outmoded, and generally inefficient, and that savings of from 3 to 25 percent can be obtained with most of the fuel-burning installations. The survey undertaken for the Mayor's Committee by Percival R. Moses & Associates shows that an annual gross reduction in operating cost of \$1,578,000 and a net saving of \$888,000 can be obtained on an investment of \$4,169,000 for new combustion and utilization equipment and controls. After the amortization period, the net saving will increase to \$1,347,000 annually. The annual cost of the recommended program will be \$685,000 during the initial period and will decrease to \$226,000 thereafter.

In connection with the above, however, it should be stated that the fuel-burning methods were found to be, with a few exceptions, no worse than those commonly found in private practice, and the cost of labor to operate the plants is below that required in many important plants run for private corporate owners. A high level of reliability in operation was found. The principal combustion equipment is generally fairly well maintained, although many of the auxiliary economy-producing devices were found to be in a shocking state of disrepair.

In many cases, it was found that plants were burning more expensive fuels than necessary. If the Philadelphia and East Orange schools, among others, can operate with perfect satisfaction at high efficiencies using smaller and cheaper buckwheat coals, there are

few valid reasons for the continued use of the domestic-size coals in New York City, costing up to 80 percent more.

The situation existing in the operation of the New York City Housing Authority plants warrants immediate and full investigation. While the Authority is efficiency-minded and well rated by the State Housing Authority, it cannot be denied that the Metropolitan Life Insurance Company is heating its housing projects with a consumption in steam per cu. ft. of about 60 percent of that used by the City housing projects, and that there is more than 20 percent variation in steam use per cu. ft. among the Housing Authority projects. The major cause of excess cost in City housing appears to be in bad design. If this is confirmed by the study recommended, important changes should be made in all future housing.

With respect to the Department of Hospitals, the engineers are of the opinion that a gross reduction in operating cost of \$200 thousand per year can be made with conversion to purchased electricity, with changes in service installation costing not over \$500 thousand.

Inspection of plants operated by the Board of Education, the largest agency surveyed, which operated 757 plants and burned \$2,195,000 worth of fuel annually at the time of the study, indicated that thermostats were inadequately maintained and settings were high, many plants burned more expensive fuel than necessary, and that increased plant inspection and training of personnel were required.

In many departments there is lack of adequate maintenance of combustion and heating system equipment and controls. Few departments have personnel responsible for maintaining continuing



checks on plants to see that they are using the least expensive fuels consistent with requirements and that fuels are burned efficiently.

The basic answer to all these problems is to establish a Central Engineering Supervision Division which will be independent of any one operating department and directly responsible to the Bureau of the Budget. Such a unit, for which it is estimated a budget of some \$146,000 annually would be required, would be staffed with trained

combustion engineers and technicians. It would receive from the departments reports on fuel consumption and other information pertinent to plant economy, and would investigate individual plants and prepare recommendations for plant changes to be acted upon by the department involved. The division would act as consulting engineers for the City, monitor fuel use, initiate changes in line with the Percival R. Moses Report, and train personnel in proper operating procedures.

### ADDITIONAL STUDIES

In addition to the specific studies highlighted in the foregoing pages, the Headquarters Staff of the Mayor's Committee conducted a number of exploratory investigations, concerned both with specific departments and with broad, City-wide problems. The results of these were not released as formal Reports, and were primarily for background purposes in formulating more intensive studies and in arriving at general conclusions. One of these activities, however, concerning a general review of manning tables, is described at some

length in Chapter III of Volume I. Its objective was to see what could be done in a "belt-tightening" program to produce immediate economies by possible reduction in excess personnel, quite aside from the long-term management programs. While savings of approximately \$11.7 million from this type of activity are indicated as possible in Appendix A, this figure is advanced as a minimal estimate only, since, as stated in Volume I, more intensive manning-table analyses are required.

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## CHAPTER III

# Highlights of the Survey (Continued)

## . . . “Vertical” Studies\*

### THE TRANSPORTATION STUDIES

The financial problems of the City's transit operations are fully described in Chapter VI of Volume I, and need only be alluded to here—problems created by huge fixed charges; intolerable congestion in rush hours, despite declining over-all traffic, necessitating further costly expansions in service, huge recent deficits (fluctuating widely as between surface and rapid transit); large deferred maintenance and modernization requirements; and continued rising costs aggravated by inflation and unsatisfactory labor relations. With an estimated deficit of \$45 million for fiscal 1953, plus an additional \$73\*\* million for debt service, these operations introduce perhaps the most dislocating single element in the entire budget picture.

What light do the Mayor's Committee studies and deliberations throw on this situation?

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\*Vertical studies are those which relate to a single department from top to bottom. See page 3.

\*\*Excludes \$27.3 million for interest and redemption for recent funded operating deficits.

When the physical condition of present facilities is considered, there is an extremely serious situation with respect to the power generation and distribution system, which is run-down, overage, and overburdened to the point of grave concern. Including construction for required power generation, the modernization and rehabilitation of the power facilities would require, according to J. G. White engineers, \$325 million over the next 10 years.

Day & Zimmermann and Coverdale & Colpitts estimate that, beginning in 1952, \$10 million must be spent each year for the next 39 years on cars for rapid transit. The surface fleet is apparently in good condition, although there is a marked deficiency in garage facilities. While major improvements were made in the Surface System in the last five years, continued large expenditures must be made to keep the property in shape. Although the physical condition of rapid-transit way and structures is good, they are not up to standard for



first-class railroads. Deferred maintenance requirements in system facilities other than power have been estimated by the Day & Zimmerman-Coverdale & Colpitts Report at \$32 million over the next five years.

The first and outstanding conclusion to be drawn is that *no amount of operating economies to be gained through better management will even come near to closing the gap between operating income and expenditures* and any thought of having the system revenues contribute to debt service is utterly out of the question.

The Day & Zimmermann-Coverdale & Colpitts Report shows total savings of slightly over \$15.5 million annually possible "within a year or two." However, these estimates rest upon traffic, wage and cost levels, the six-day work-week, and other factors that obtained during the study. Moreover, these savings do not mean money in the City's pocket in view of the other qualifications pointed out by the engineers: \$1 million would not be chargeable to operating expense; almost \$2.5 million results merely from a bookkeeping transfer of subway police salaries to the Police Department; deferred maintenance, already mentioned, would require \$6.4 million per year for five years, and recommended rehabilitation of signal and other facilities would require between \$5 million and \$6 million per year for a similar period. The savings claimed by Day & Zimmermann and Coverdale & Colpitts would also be offset in part by increased expenditures for administrative personnel.

The above means that while all possible avenues of economy should be most diligently explored, the way out is either through increased fares, through an ex-

tremely large, *recognized* subsidy for transportation as a social service to be supplied the citizens, like fire and police protection, or through an entirely new approach which will combine other revenues with transit to produce a solid economic foundation for transit.

No acceptable fare increase can cover all the fixed charges, including full provision for pensions, depreciation and obsolescence, and current interest on the transit debt, particularly if further inflationary cost increases are encountered. Moreover a fare increase will undoubtedly mean additional loss of passengers, although the "point of diminishing returns" is, practically speaking, not in sight, since a fare increase of, say, five cents would return additional revenues many times the amount lost by the drop in the number of riders occasioned by the fare increase. (Questions of effects of various patterns of fare, and the loss to those avoiding the facilities because of price increase, are discussed in some detail in Chapter VI of Volume I.)

The next basic management conclusion is that any resort to fare increase must be accomplished in a much more propitious management-labor climate than has prevailed in recent years.

As a matter of fact, the relations with labor remain the paramount operating-management problem. Salaries and wages in 1950 required 73 percent of the revenue dollar, compared with 52 percent in 1941. In the Rapid Transit System, about 1,000 men are needed now for the same car-miles turned out by 850 men in 1945; 1,000 men are needed for transporting the same number of passengers carried by 750 men in 1945. Part of this is due to more liberal policy in hours, vacations, sick leave and the



like. Medical services for employees are much broader than in private utilities.

Among other organizational changes, creation of a strong Department of Employee and Public Relations is urgently needed, as called for by Day & Zimmermann and Coverdale & Colpitts. Other recommendations on procedures, training, supervision, and the like will increase labor output, although the engineers have stated that such devices as wage incentives and measured day work, used in private industry, require a climate of mutual respect and confidence between labor and management which does not exist, and would take at least five years to create. In line with the Memorandum of Understanding of May, 1950, many grievances are properly handled at the local level, but too many still go up for trial.

Another serious policy question to be decided is whether power for the transit system is to be generated or purchased. The Board of Transportation now generates about 72 percent, and purchases 28 percent. The J. G. White Report develops a plan for all additional power requirements to be met with modernized and new generating installations at a cost of \$239.5 million—part of the \$325 million already mentioned—spread over 10 years (not including provisions for the proposed Second Ave. line, although the plan would permit increased units for added capacity). This will provide marked economies over power costs from present facilities. However, the costs as projected to 1960 are not even ultimately as low as present purchased power, although rates will undoubtedly go up. The desirability of generation over purchase as stated by J. G. White is largely based on the purported improved bargaining position vis-a-vis the utility, with some advan-

tage on the score of diversification of source in case of plant failures.

Since transit engineers have pointed out that no important transit system in this country, privately or municipally owned, now produces its own power, and in view of the very heavy investment required, it may well be that the Board of Transportation should get out of the power business, not only purchasing for future needs, but also disposing of its present generating stations to the utility. However, no decision can be reached until specific conditions and rates have been negotiated with the utility.

In the operation of the system, it is obvious that drastic changes in the top-side organization must be made. While Day & Zimmermann and Coverdale & Colpitts themselves disagree as to the details of working out the change, and the Mayor's Committee recommendation of a Transportation Authority with a general manager in charge of all operations differs from both, the underlying difficulties are recognized by all: the present three-man board at the top, with an unmanageable span of top executives reporting directly to it; no strong management of the surface lines reporting independently to a single responsible top manager, who would be responsible to the Board; and much too great a span of control for the present general superintendent. These create confusion and laxity despite tremendous busy-ness of overworked and harrassed officials. Added to this is the assumption of technical operating control by the present chairman of the Board who, under the present deficiency of topside organization, operates as a general manager rather than as top policy-making official. The Board itself is involved in many details, with too many



matters of trivial nature allowed to clutter up its calendars.

Numerous opportunities for economies in operation are shown in the engineers' Reports. Many of these, the Mayor's Committee has been advised, have already been implemented. A payroll saving of \$150,000 is attainable in the Accounting Department. A Systems Department is proposed, under the Bureau of Finance & Accounting. Further studies on the handling of passenger revenue are required, and new fare collecting equipment is needed. A comprehensive study of the entire stores situation is warranted. Much more machine accounting could be done in stores operation. An internal audit department is required.

Train operation is reported as well conducted, with good speeds and adherence to schedules, although Day & Zimmermann and Coverdale & Colpitts report that the schedules of trains and car-miles were not, at the time of their study, adjusted to decrease in traffic.

Employee safety in the whole system is good, although the engineers find no decline in public accidents in proportion to the decline in mileage and pas-

sengers. The engineers report the need for more labor-saving equipment for track gangs, to increase productivity.

In the Surface System, comparisons with private bus operators show costs on the high side. In the transportation section, also, the Day & Zimmermann-Coverdale & Colpitts report finds opportunities for savings amounting to a net of almost \$2 million, \$830,000 attributable to reduction in basic service.

Maintenance economies of some \$1.5 million are possible, important components resulting from final conversion to bus and trolley bus from rail, fewer maintenance employees by virtue of tightening of shop procedures and reductions in service already recommended, and use of maintenance forces for shifting buses within the garages. Finally, a much more thorough inspection procedure is needed.

The Mayor's Committee has given a great deal of attention to the organization and financing of transportation, but has not found any plan on which a majority could agree. The Committee therefore presents several alternatives in the Appendix of Volume I, page 278.

## STUDY OF FUTURE WATER SOURCES

The water sources we now have, and the dams now under construction on the East Branch of the Delaware River when completed in 1956 or 1957, will meet all the needs of the City at least to 1965 and perhaps even beyond 1985, depending largely on population growth and economy of use. However, since it takes from five to ten years to design and construct a major new water source, plans must now be started to develop an additional source, so de-

signed that it could be brought into use in 1965 to 1985, depending on how the needs of the City develop over the next decade.

There are now three major possibilities for new water sources:

- (1) The Board of Water Supply plan—a dam to be built by New York City at Cannonsville on the West Branch of the Delaware River to be connected by tunnel to the Roundout Reservoir and thus to the Delaware Aqueduct.



(2) "Incode" (Interstate Commission on the Delaware River Basin)—a co-operative project with New Jersey, Pennsylvania, and New York, including a dam at Cannonsville as well as other dams, and a new aqueduct coming to the City of New York through New Jersey. (The Board of Water Supply plan can be fitted into Incode.)

(3) The plan which the Engineering Panel on Water Supply of the Mayor's Committee urges be thoroughly explored before going ahead with either (1) or (2)—the Hudson River project, with intake near Hyde Park, and a modern filter and treatment plant, feeding water when needed either into the Delaware Aqueduct or into the Boyd Corners Reservoir.

Complicating the situation is the fact that even though the need to proceed with actual construction of the Cannonsville project is no longer as urgent as had been thought shortly before, a key move in ultimately carrying that plan forward is an application pending before the Supreme Court, which could well be jeopardized by an intimation on the part of the City that it was considering Hudson sources. Withdrawal of or delayed action on the application could well delay completion of Cannonsville beyond a safe date, if further studies should, after all, show that it would be indispensable.

Hudson River water, with filtration and chemical treatment properly handled under standard methods, can be made equal to the water now delivered to New York City in safety, color, taste, and other elements of quality. There is expert opinion that it will be even better than unfiltered upland water. At the Hyde Park intake recommended, salt is no problem.

Of the three projects, the Incode project is by far the most expensive.

Not only would the cost of water be high, but in order to make it possible for Incode to finance itself the City might be under obligation to buy much more water than it really needs, at a minimum fixed charge of perhaps \$9 million a year. Incode water would cost not less than \$106 per million gallons a day for the first stage of the planned development, and \$70 per million gallons a day when the second stage is completed. In comparison, Cannonsville would cost only \$48, and the Hudson \$26 per million gallons a day.

By going to the Hudson instead of to Cannonsville, the City would save some \$100 million over the first 40 years of operation, for debt service and operation costs. After that period, when the bonds are all paid off, the annual costs of Cannonsville would drop to around \$420,000 while the costs of pumping and filtering the Hudson water might be as much as \$3 million to \$4 million in a dry year, because the upland water would run by gravity while the river water would have to be pumped. However, only as much would be pumped as might be needed.

It has been reliably stated that in the event of war or sabotage, the Hudson River source, being a flowing stream, would rid itself of radioactivity or poisoning much more quickly than any reservoir.

The above facts and their implications were under thorough review and discussion for many months, and gave rise to sharp differences of opinion. The majority of the Mayor's Committee, however, agrees to the wisdom of staying out of the Incode project.

With respect to use of the Hudson as a regular source of supply as opposed to going ahead with Cannonsville, the



Engineering Panel itself limited its recommendation to the making of a thorough engineering study, meanwhile holding up any action on Cannonsville. By far from unanimous action, the Committee has adopted both points of view, in effect—calling for the engineering study of the Hudson, explicitly specifying that it be with the idea of using the Hudson for *nonemergency* use, but also recommending that the City move forward with the Cannonsville project.

The Committee recommends that along with the above studies, the Board of Water Supply should undertake the making of preliminary plans and estimates for a modern filtration and treatment plant designed to process the total water supply of the City. Many years ago, the Board of Water Supply wisely acquired an excellent filter plant site some two miles west of Kensico. The cost of complete filtration of the present supply without considering either Cannonsville or the Hudson is estimated at about \$88 million for capital investment, and \$3.8 million for annual operation, excluding debt service. The cost, including debt service, for complete fil-

tration of present sources would thus be about 83 cents per person per year, or a little over 1½ cents per person per week.

Waste of available water is another problem that should be tackled immediately. A great improvement was made as the result of the water-saving campaign of 1949-1950, but it is estimated that as much as 200 million gallons daily beyond actual needs are still used, primarily because of the lack of complete metering. Underground leakage resulting from maintenance deficiencies is estimated at from 100 to 200 million gallons per day. Thus a modernization of the older parts of the distribution system, plus the general use of metering, could conceivably cut the average consumption, without stinting anybody, by about 250 to 300 million gallons daily. This is not far from equaling the total capacity of the proposed Cannonsville or Hudson projects.

There should be established without delay a new major division in the Department of Water Supply, Gas and Electricity with an adequate appropriation for the detection, prevention, and early stoppage of leakage and waste.

## THE EDUCATION STUDIES

New York City's Board of Education is the largest single-municipality education system in the world. Its Superintendent of Schools is the head of an organization employing over 45,000 persons. In the 1952-53 school year, the Board's budget for education totals some \$251 million, of which \$205 million represents salaries for teachers and administrative personnel directly associated with teaching. Pensions, debt service, health services, and light, heat,

and power bring the total budget for pre-college education to over \$328 million. Replacement value of present school buildings is well over a billion dollars, and the annual capital-outlay budget is in the neighborhood of \$50 million.

Under the Board of Higher Education, the four municipal colleges—City, Hunter, Brooklyn, and Queens—have a student body of more than 71,000 and an annual budget of over \$22 million.



The physical plant has an assessed valuation of \$40.6 million.

The studies of the Mayor's Committee, while comprehensive insofar as organization and administration of all educational activities are concerned, did not include teachers' salaries. These were separately studied and reported upon on February 15, 1951, by the Fact-Finding Committee of the Board of Education of the City of New York, Arthur S. Meyer, Chairman. This immediately removes some \$200 million of expenses from consideration, but this fact should not be held in depreciation of the sum-total effects of the studies. Not only is the remaining \$40 million still a very substantial item, but also the improvement of pedagogical organization and administration can greatly increase the return which the citizens receive for the \$200 million expended on direct instruction of their children. (The Meyer Report recommendations, it should be noted in passing, will add some \$32 million to \$34 million annually to the City's budget. However, in the form in which they were adopted, these recommendations will be put into effect gradually, so that their full impact will not be felt for several years.)\*

Approximately one-fourth of the education budget is presently borne by the State. However, the formula by which this State aid is computed puts the grants on a different basis from those for, say, welfare, in a very important way. In welfare, the grants paid by and through the State are 80 percent of expenditures by the City. Thus, under most circumstances, an economy in welfare administration nets the City only 20 percent of the amount actually saved.

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\*Figures in this paragraph refer to the 1951-52 budget, as of the time of the studies.

On the other hand, the education grants paid to New York City are not based on a percentage of expenditures. Thus, any saving in the administration of education within any realizable limits will be a "true" saving—i.e., budget-wise, the City will benefit by 100 cents on every dollar of economy.

The Strayer-Yavner Report strongly urges complete separation of the public education functions from other public functions, recommending that there be an elected board with complete "fiscal independence"—i.e., that it be vested with its own taxing and borrowing powers—and that the administration of the City's public schools be liberated from the municipal government's budgetary and fiscal controls. However, thorough analysis of the implications of such a move has led the Mayor's Committee on Management Survey to reject it as not a practical solution. In the Committee's judgment, the members of the Board of Education should be appointed by the Mayor rather than elected, and school management problems should be solved through administrative changes, not by tax and budgetary liberation.

No term milder than "chaotic" can be applied to the general organization and business management of the Board of Education. Happily, partly through the recommendations of the Strayer-Yavner Report and the resulting recommendations of the Mayor's Committee, important forward steps have been taken. The Committee's consultants have estimated that well over \$2 million of direct annual savings are possible through improved management, plus a possible net reduction in the capital budget of \$4 million. In addition, they estimate that added values without added costs, totaling another \$1.5 million, should be obtainable.



The Mayor's Committee on Management Survey, in an emergency action of May 21, 1951, called for far-reaching and fundamental changes to be effected at once—most important for the immediate situation being the creation of three top deputies for the Superintendent of Schools instead of one. These are Deputy Superintendent of Schools (already existing), Administrator of Housing Affairs, and Administrator of Business Affairs, with appropriate subordinate organizations. Board of Education and Board of Estimate action has gone a long way toward implementing these recommendations, at least with respect to the top staff. Unfortunately, the delays which apparently chronically impede action in the City's affairs have worked with frustrating effectiveness in holding up the necessary subsidiary appointments and reorganization necessary to make the work of the able top men fully effective.

Along with topside executive reorganization, there must be clearer acceptance of an appropriate division of authority and responsibility between the Board of Education and the Superintendent of Schools. The former has tended to intervene excessively in administrative details, rather than confining itself to policy determination.

There is serious jurisdictional conflict between the Board of Education and the municipality. This is most acute vis-à-vis the Bureau of the Budget, arising primarily from the Budget Bureau's control over specific items for current operations, especially those involving new services, appointments, reassignments, and requisitions. Similar conflicts occur in connection with the capital budget. The Board of Education

should be given authority to administer its own budget, in fact as it is in law, and the review of the line budget should be replaced by a review and examination of the budget as a whole.

To improve school administration, the divisions under the associate superintendents should be reorganized on a functional basis (such as "instruction," "research," "school organization," etc.) rather than on the present basis of "school levels" (elementary schools, junior high, vocational high, and academic high schools), and certain administrative consolidations should be effected. Very urgently needed is a Division of School and District Organization, responsible for developing a system of pupil accounting and for processing data on daily registration and attendance. This is highly important for proper planning for future schools. Such a division should also re-examine the boundaries of the local school board districts, which have not been revised during the past 31 years.

Assignment of educational personnel to nonteaching jobs should be strictly limited to work definitely requiring pedagogical qualifications. Present practice is especially wasteful, since such personnel are given the full vacation period enjoyed by those subjected to the strains of classroom teaching.

In the Office of Housing Administration, development of a Bureau of Programming should be undertaken immediately in view of the extensive criticism which has been directed at the weaknesses of the school construction program. There is serious underutilization of existing schools and inadequate planning for new schools, and a realistic formulation of school capacity is lacking.



The Strayer-Yavner Interim Report showed a shocking lack of management controls, progress charts, and expediting techniques for following through on the millions of dollars worth of construction. Although the necessary first steps have now been taken to correct this condition, there is still much to be done in this regard.

The magnitude of the problems involved in housing is indicated by the fact that in the 1951-56 capital program of the Board of Education there were included, at the time of the survey, 118 new schools to relieve overcrowding, at an estimated cost of over \$257 million; construction was proposed, beginning in 1953, for replacement of obsolete school buildings and needed facilities for 180 projects, at an estimated cost of over \$260 million; and modernization expenditures, for the six-year period, of \$48 million. A partial explanation of the Board of Education's difficulties is found in the fact that responsible direction of this huge multi-million-dollar program has largely been in the hands of persons who are educators by training and temperament, rather than practical businessmen and engineers.

Maintenance as well as new construction has been seriously bogged down. Here, also, rapid progress is already being made in line with this Committee's recommendations.

Detailed reorganization of the Office of Business Affairs was delayed awaiting the selection of the new Administrator. With proper support the Administrator, now that he has taken office, will be able to introduce many economies and improvements.

As for the Board of Higher Education, a primary recommendation is that the State should assume some respon-

sibility for the post-secondary school program of the City as it does for the communities in the rest of the State. This could mean an extremely important and thoroughly justified item of relief in the City's present fiscal burden (a reduction of up to \$15 million net if the State were to assume the whole operation). The appropriate share to be borne by the State and the question of incorporation in the State University should be explored by a Joint Committee of the Board of Higher Education and the Trustees of the State University. Expansion of college facilities, such as the establishment of a community college in Staten Island, should await the adjustment of questions regarding State subsidy or transfer to the State University.

The Board of Higher Education is unwieldy, and its numerous standing committees cause confusion. Moreover, its members are engaged too extensively in administrative detail rather than in policy-making. Membership should be reduced to 9, and the extent and manner of reduction and reorganization determined by a Joint Committee of the Board of Higher Education and the State University. It is urged that the position of Chancellor should be created, as recommended by the consultants, with responsibility and authority for co-ordination of the entire system of higher education and the centralization of fiscal control.

As in the case of the Board of Education, the colleges should be freed from the restrictions of the line-item budget, and should set up their budgets on a functional or program basis, subject, of course, to post-audit of their accounts by the Comptroller.



## THE WELFARE DEPARTMENT STUDIES

With an annual budget in recent years ranging from \$160 million to \$180 million (depending upon the relief load), the Welfare Department is the City's third largest spending department. This Department has approximately 8,000 employees, the bulk of whom are social investigators, assigned the task of determining eligibility and fixing the kind and amount of aid those in need shall receive. Of the total 1952-53 budget of \$176 million some \$25 million is required for personal service (not giving effect to recent cost-of-living increase).

Aside from the professional aspects of welfare administration—who should get relief and how much should be considered appropriate for given levels of need, which were not part of the present management study—the biggest problem confronting the Department is the almost intolerable complexity in which disbursement and accounting operations have become enmeshed. All the consultants working on the Welfare Department studies have commented on this condition with varying degrees of exasperation.

After considering all implications, the Mayor's Committee on Management Survey concluded, in line with the Institute of Public Administration Report, that basic administration should be carried on without change in the fundamental framework within which operations are at present conducted, but with a sharp increase in autonomy of the City Department. To make this proposed solution workable, the present State Area Office for New York City should become the New York City Office of the State Commissioner, con-

tinuing with its fiscal, auditing, advisory case review, technical services, etc., but no longer issuing formal instructions to the City in its own name, or making decisions on withholdings or on matters of local policy. In this connection, the State should give up the use of the present "Local Plan" as a control device. It should, instead, prepare a concise, complete, up-to-date State manual of regulations.

In connection with State review and audits, there has been too much inter-governmental bickering, preoccupation with procedure, and excessive paperwork in an atmosphere of suspicion and antagonism. However, a new social audit plan was introduced by the State and the City working together, in March, 1952, which it is hoped will greatly simplify and speed up procedures.

As recommended in the IPA Report, an intergovernmental conference or commission should be established, whereby the Federal, State, and local governments can join in a comprehensive examination of the long-run inter-governmental problems of welfare administration.

A final point on basic policy is that the whole problem of welfare in New York has been beclouded by the large percentage of State reimbursement, which actually is tied up with State assistance to the City's total fiscal needs, rather than to assistance specifically for welfare. In other fields, such as education, grants by the State are made without the highly aggravated situation of duplicative audits and controls. It can be concluded that the very size of the 80 percent contribution is an important upsetting factor. The IPA sug-



gests that State reimbursement for welfare be placed at 50 percent, with a compensating increase of State aid through increasing the per capita grant, or introducing a new grant based on some measure of local economic need which would be more sensitive to local employment conditions than the per capita grant. While the Committee does not approve this plan, it might have the virtue of relieving the pressure for the extremely tight supervisory control over welfare which now exists, while at the same time, by its 50 percent provision, cushioning the City against severe strain occasioned by a sudden, serious economic depression.

The City Department of Welfare and the State Department of Welfare should explore the use of a "pooled fund" for the primary purpose of improving medical care for relief recipients. Under this method, as alluded to in the American Public Health Association Report, the Department would make a previously determined monthly payment into a segregated fund, in behalf of each recipient of a Federally-aided category of assistance. Out of this fund would be paid medical bills incurred on behalf of any individual recipient within the category involved. By this means very substantial additional Federal funds could be secured for the State (and passed on to the City)—particularly if eligible nursing home and hospital care were included in such a pooled fund. Unofficial estimates have placed this possible additional annual revenue as high as \$6 million. None of this can be had without State action.

As for straight administrative matters, the move toward decentralization, already undertaken by the Department, should be followed up with vigor. The welfare center should be considered the

basic operating unit for the major substantive welfare program, and all reorganizational moves should be hinged on that concept.

Many improvements in procedures and routines are possible. Of special importance is the recommendation for the creation of a section in the Bureau of Finance and Statistics to conduct constant, intensive review of forms, methods, and procedures of the bureau.

The Department should undertake a complete revision of its "Administrative Register" (its classified guide on standard operations), using a format and index which will make it possible to determine current procedures without time-consuming research, and expanding it to include procedures at central office as well as those in the field.

According to Crafts, Carr & Donaldson, little or no internal auditing in its true sense is done in the Department of Welfare and, in many cases, controls are nonexistent. However, the new audit procedure referred to above may correct this.

Much can be done to reduce the routine clerical work and the "make ready" of the social investigator, thereby increasing his effectiveness in the field. The Department should undertake the time-study program outlined by the McKinsey Report.

Valuable work has been done by the Department in the statistical machine installation at the Melrose Center. In view of the general agreement by the Committee's consultants on the direction and scope of this work, the Department is to be commended for the extension of the system to all centers, and for the department-wide substitu-



tion of machine for manual procedures in the operations covered. The Barrington Report indicates that machine methods can be extended even farther,

and that greater centralization of the machinery would be desirable. Both of these possibilities should be explored by the proposed methods analysis unit.

## THE HOSPITAL STUDY

New York City's municipal hospital system operates 26 hospital centers, general hospitals, special hospitals, and custodial institutions, with nearly 20,000 employees and an authorized nursing staff of more than 12,000. The Department of Hospitals employs over 2,000 doctors on a full-time basis and utilizes over 7,400 attending physicians from private practice. It is the fourth largest department in the City government from the standpoint of expense, with an operating budget (1951-52) of \$96.5 million and an expansion program involving 29 new projects estimated to cost a total of \$304 million. The annual operating budget of the Department tripled from 1942, when it was \$32 million, to the time of the survey (1951). It is significant that the budget for 1952-53 stands at \$104 million and that in 1950-51 it was \$80 million. Although facilities are constantly being added—for example, the 2,000-bed Bird S. Coler Hospital and Home, opened July 1, 1952—overcrowding seems to be chronic in this area of service.

Buildings and equipment are seriously undermaintained. Equipment is overloaded and inadequate. Ironically, despite the crying need for equipment, new X-ray machines, sterilizers, autoclaves, and various items of laboratory equipment still remain uninstalled because of confusion and indecision.

According to the Booz, Allen & Hamilton Report, not all local hospitals are well run according to modern hospital

standards. There is insufficient personnel training and executive development. Departmental budgetary and control methods are unrealistic, deceptive, and cumbersome, and almost useless as a management tool. There are serious backlogs in billings and collections, and grave deficiencies in such activities as screening for admission and determination of degree of medical indigency. There has been a long history of bad organizational practice in these hospitals, although there is a definite trend toward improvement in the present administration of the Department.

Basic to the whole question of overcrowding, and hence directly linked to the immediate problems of equipment and personnel and the long-term program of capital facilities, is New York City's extremely generous policy on admissions to City hospitals, which by Charter mandate should be primarily for the care and treatment of the indigent sick. The City has been giving hospital service to thousands of individuals each year who could afford to pay for their care sufficiently to go to private hospitals (which have a vacancy of some 25 percent in their ward service), or who do not need complete hospital care. Moreover, considerable congestion in the clinics, where the service is free to all, is caused by persons who do not really need the attention of the attending physicians, and referrals to the hospitals from the clinics add to the crowding. The Booz,



Allen & Hamilton Report estimates very conservatively that the net excess cost to the City of its liberal admission policy was \$1.7 million in 1950. While the Commissioner of Hospitals has disputed the size of the problem, he has not suggested that the basic finding is in error.

Another element with major effect upon facility and budget requirements is the care of custodial and infirm patients who do not require full hospital service. Many of these still occupy general hospital beds throughout departmental institutions. Booz, Allen & Hamilton estimate that there are 1,700 such cases, and conclude that a saving of over \$5 million per year would result if these custodial patients were placed in institutions devoted exclusively to their care. These estimates have also been disputed by the Commissioner of Hospitals and the Bureau of the Budget. However, sizeable economies should be possible. The Bird S. Coler Hospital and Home will help alleviate the situation.

The consultants urge that admitting clinics be established in all general hospital out-patient services. While they estimate that professional coverage for these clinics would add some \$230,000 to costs, they estimate that this device would reduce the patient load by more than 20 percent. And to decrease the number of referrals from out-patient services to hospital admission, they recommend that diagnostic clinics be provided in all general hospital clinics; they estimate that these would more than return the \$410,000 required for professional coverage by relieving overcrowding in hospitals.

Projecting needs for facilities on changes in policies along the lines mentioned, the consultants arrive at a net re-

duction in capital program of \$32.2 million resulting from limiting admissions, and another \$18.7 million from adjustments in custodial care. Despite modifications which may be found necessary in these estimates, it is obvious that the whole long-term capital program for hospital construction must be thoroughly reviewed.

Doctors, nurses, and other professional classifications are dangerously under authorized quotas. At the time of the survey, the Department had only 53 percent of its authorized complement of registered nurses. Because of low salaries, the Bureau of Maintenance had, in 1951, a resignation rate of 33½ percent. Early in 1951 there was approximately a 50 percent turnover in ward clerks because of required replacement of provisional workers. This made it necessary to use many of the already insufficient number of nurses for non-nursing work. Vigorous central budget controls are, of course, necessary in any large-scale operation, and will be retained even under the plans proposed by the Mayor's Committee for much greater departmental discretion and responsibility through performance budgeting. However, where large and expensive facilities are operated under a need that is not in dispute, moneys will simply have to be found for necessary maintenance and for sufficient operating personnel, adequately paid.

Immediate efforts should be made to collect the large accumulated amounts outstanding for hospital care, although the actual realization may be considerably less than the total of \$4 million estimated by the consultants.

The method of determining capacity to pay is not adequate or satisfactory. An important contribution can be made with the assumption of certain defined



parts of the resources investigation by the Department of Welfare through its regular channels, and some form of joint action should be worked out immediately.

The consultants arrived at a net figure of \$14,313,000, combining net annual operating savings and increased revenue, as obtainable if their various recommendations are implemented. However, this must be reduced by

\$3,000,000 which the Report states would result from recommended charges for employees' meals, since the Mayor's Committee has not taken this as "savings." That very large total savings are possible seems indisputable, even though the City might not want to go as far as the consultants suggest in deliberalizing its admissions policies, and allowing for less saving from changes in custodial care than the consultants estimate.

## THE HEALTH DEPARTMENT STUDIES

Major responsibility for the health program of the City of New York rests with the Department of Health. The scope of this Department's work is indicated by its annual budget of approximately \$17 million and its 5,000 employees, of whom 4,200 are on a regular full-time basis. The budget has approximately doubled since 1945-46, with the encouragement of State dollar-for-dollar subsidy. However, the percentage of unused funds at the time of the studies was about 20 percent, primarily due to tight Budget Bureau control, and unavailability of personnel such as public health nurses at the salaries offered.

In some respects, New York City can take a measure of pride in its public health record. For example, in recent years, the rate of infant mortality has been the lowest among the 10 largest cities in the United States. The death rate from tuberculosis is lowest among the five cities with over one million population.

On the other hand, the American Public Health Association Report states that: "The Department of Health of New York City was once an outstanding leader in municipal health affairs. It was also a leader in public health methods, in teaching, and in research. It was

one of the best health departments in the country. It no longer is." There has been a decline in the "flow of major contributions which characterized the Department in the earlier part of the century."

Perhaps the most far-reaching of the APHA recommendations appears in connection with dental health. The Report calls for the fluoridation by New York City of its water supply as soon as possible, ranking this preventive measure among the major forward steps in public health in recent years. Based on experience in other cities, it is estimated that a fluoridation program would cost about 10 cents per person, or some \$800,000 per year, not counting the capital charges. Further studies of this development should be pursued by the Department of Water Supply, Gas and Electricity in order to work out the engineering and cost details. However, in this period of fiscal strain for the City budget, fluoridation should not be started until the recommended management economies have been introduced.

Thousands of homes with inadequate sewage disposal units are being built annually in the outlying districts of the City. Neither the Department of Health nor other departments have formulated



appropriate policies to provide for modern sewage facilities for these new developments. There are numerous instances of overflowing cesspools and sewage in cellars and gutters affecting thousands of families. More inadequate and unsafe house disposal units have been installed in the past five years than were eliminated by health officers in the past quarter of a century. In Queens, 30 percent of the homes have no public sewer service and in Richmond, 65 percent. Unfortunately, the Department of Health exercises negligible influence in the programming of public sewage disposal facilities. It should regain leadership in such vital health matters by interdepartmental negotiation and influence.

While the City has been a leader in the field of maternal and child health, the program has been weakened by low salaries, high turnover, and vacancies in key positions. All hospitals having over 1,000 deliveries a year should develop adequate facilities for premature infants. The well-baby clinics are of high quality but their distribution throughout the City is not satisfactory.

In the school health program, the "Astoria Plan," which substitutes an orderly screening and referral service for the former cursory, rapid medical inspection, is one of the City's major public health advances in recent years. An extension of health services in the secondary schools is urged.

In spite of great strides in the control of tuberculosis, this phase of health work is for the present one of the City's major health problems, and the program must be maintained at maximum intensity at least for the next decade. Because of recent advances, capital outlays must be reviewed.

Aside from treatment of disease, which is beyond the responsibility of the Health Department, the greatest needs in the maintenance of adult health are diagnostic services, disease detection, and health education and guidance. The APHA Report found that health education was the Department's weakest link and urged, what has now been done, the appointment of a professionally qualified person to head up the activity in the Department.

The APHA Report recommends an intensive program of training of nurses, increased use of community nurse services, greater decentralization of the Department's nursing activities, the reassignment of duties of the nursing staff, and the reorganization of the Bureau of Nursing. Meanwhile, it is urged that responsibility for home-care programs should be handled by visiting nurse services.

The extension of health services would entail added expenditures. The estimate of \$800,000 annually for fluoridation has already been mentioned; the other APHA recommendations for strengthening or augmenting services have been estimated to add roughly another \$300,000 per year.

To offset the added costs, certain activities of the Health Department can be curtailed. For example, progress in the control of venereal diseases now permits a reduction in the scope of that program. Other curtailments can be made in the dogbite service, control of communicable diseases (because of the effectiveness of antibiotics), elimination of the Health Department's inspection of milk and meat supply at the source (duplicated by Federal and State inspections), and possible elimination of manufacture of biologicals. In addition,



the Barrington Report contains recommendations on administrative and procedural changes which the consultants estimate as capable of producing substantial savings.

With respect to business management as distinguished from programing, the Barrington Report finds that the primary problem is one of departmental organization and outlines remedial action. The basic problem is to stimulate gradual decentralization of the health program, rather than insisting upon an

immediate formal reorganization. The primary objective should be to bring about more autonomous operation in the district offices, and more consultative rather than executive operation by the central office technical bureaus.

Barrington estimates that over 45 percent of all man-hours in the Department are devoted to clerical effort. Much of this can be reduced by improved routines involving extensive redesign of forms, and some mechanization.

## THE DEPARTMENT OF SANITATION STUDY

The Department of Sanitation's 1952-53 budget calls for an expenditure of over \$58.4 million, the employment of approximately 13,000 people, and the operation of thousands of vehicles and hundreds of facilities ranging from structures and shops to marine vessels.

While there has been a certain amount of criticism of the Department by various civic groups, centering especially around alleged large-scale economies to be obtained from a reduction in frequency of collection of rubbish and from other operational improvements, the analysis conducted for the Mayor's Committee by outside engineers has resulted in general endorsement of the Department's major programs and policies.

A representative sampling of public opinion shows that citizens apparently find both collection and street cleaning entirely adequate. This, of course, is with regard to the criticism of "not enough." With respect to the opposite charge of "too much," leveled by economy-minded citizens with special reference to frequency of rubbish collection, the Trundle analysis points out

that savings to be realized from a decrease in frequency can be derived only from a percentage of the working day devoted to truck travel between collection points (assuming satisfactory loading of trucks). The quantity of material to be collected will be the same, and only the minutes of travel time between collection points is affected by a change in frequency of collection. The limiting factor (theoretically speaking) will be the amount of refuse which the City is willing to have accumulate along the curb pending arrival of a truck. The Trundle Report calculates that should all tri-weekly service areas be reduced to once-a-week collections, and all six-day-a-week service reduced to five, there would be a theoretical over-all saving of some \$1.5 million per year. However, it finds that no such comprehensive cut in service is practical. Advocates of further drastic reduction in frequency have contended that the conclusion drawn by Trundle from the formulation in the Report improperly assumes full loading of trucks and adequate tamping down of rubbish in containers left at the curb, and that Trundle neglected to take into consideration the fact that loading of



trucks is done more expeditiously per container when many containers are accumulated, because in such instances the truck driver helps in the loading.

Separate collection of combustible refuse, garbage, and rubbish from that of the noncombustible, following the precedent of certain other cities, would be uneconomical and inexpedient for New York in most areas, since all rubbish, other than ashes, is to be incinerated under New York's basic disposal policy.

A great deal more mechanical sweeping should be done. While mechanical brooms can never entirely replace manual operation, the present 100 to 1 ratio in percentage of budget devoted to hand sweeping versus mechanical sweeping is far out of line.

Section headquarters stations should be eliminated. The Department had already undertaken the move in part at the time of the survey, and on the basis of eliminating 30 section stations immediately, indicated potential savings of \$56,000 per year. Trundle states that when the idea is fully carried out, at least half of the 240-odd section stations can be eliminated, with a saving in annual expense of \$250,000. In this connection, section foremen should be provided with motor vehicles where needed. This, according to the engineers, would make possible further potential savings of \$570,000 annually.

The current incineration program for garbage and rubbish is the most economical and satisfactory method of disposal for New York City. However, engineering studies should be instituted to locate and acquire new lands and marine fills for the disposal of ashes. Even if the City had full incineration today, the presently available fills would last but from 12 to 31 years. At today's

rate of disposal, present sites will be exhausted in from 4 to 10 years.

The Department's long-term full incineration program is based on population figures which are higher than population estimates made by the Headquarters Staff of the Mayor's Committee. Moreover, the Trundle Report considers the Department's estimate of unit cost of \$5,000 per ton for new incinerator capacity to be high compared with experience of other large cities, and indicates that \$3,500 per ton would be more realistic (1950 prices). Accordingly, giving effect both to lower population estimates and to lower unit cost figures for new construction, the Department's estimated cost of \$55.5 million for its long-term incineration program (including modernization as well as new construction) could probably be reduced by about a third unless construction costs rise proportionately.

The Department's plan for a central motor-repair shop in the approximate geographical center of New York City is sound, and all truck maintenance other than fueling and lubrication should be performed there. However, before the Department's program for building garage facilities, estimated to cost some \$30 million, is fully approved, consideration should be given to the Trundle Report's comments on construction and use—for example, openside, undercover parking for vehicles out of use for the season in remote and expensive sites.

A much closer control over truck maintenance should be instituted to make better use of the existing fleet. In this connection, standardization upon two basic types of trucks is suggested.

Departmental reports, designed to show operating results, fail to disclose



fully the effectiveness of performance and now have little value for cost control purposes. Many basic forms from which such data are compiled are needlessly complicated and duplicative. Standard payroll forms, time cards, job tickets, and similar documentary data should be adopted by the administrative and operating bureaus. Consideration should be given to increasing the effective employment time of the men by ending the practice of requiring truck drivers to be back at the garage for four o'clock roll call (thus ending loading and work of the loaders at an hour considerably earlier).

Control over district operations requires district performance records.

The installation of automatic weighing scales at disposal locations, begun by the Department, will aid in this. The engineers have estimated, on the basis of general experience in industry, that direct and indirect savings to be realized from sound performance controls should easily exceed 10 percent of the payroll involved.

For the future, the desirable line of development clearly consists of more mechanization and the invention of new devices and arrangements for collection of wastes. Therefore a major departmental policy must be to provide for research and for the continual review of waste handling methods elsewhere, particularly in large-scale industry.

## THE FIRE DEPARTMENT STUDIES

With an expense budget of over \$63 million (including some \$12 million for pension payments) the New York City Fire Department is one of the major operating departments of the City.

Since over 95 percent of the Fire Department's budget is for personnel, by far the greatest portion of which is in the uniformed forces, any study of budgetary needs must begin with a complete analysis of the number of men required, which in turn depends upon the number of companies.

Study of present company distribution and response was backed up by a comprehensive statistical analysis of incidence of multiple alarm fires and considered the hazards in this City with respect to structural, geographic, traffic, and other conditions; it indicates the possibility of a net reduction of 9.5 percent in engine companies (a net of 21 from the present 221) and 22 per-

cent in ladder companies (28 from the present 127), although 88 of the engine companies in the proposed plan would be two-engine units, and there would be three new engine companies in Richmond. However, highly important provisions of this plan, outlined in the Report by A. C. Hutson, are that there should be adequate manning of all companies, a program of apparatus and equipment purchase to assure conformance with the best standards, and improved use of offshift fire forces in an emergency.

The reduced number of companies, *adequately manned*, would call for several hundred fewer active fire-fighters than presently budgeted, with a budgetary difference of over \$1.4 million. This comparison indicates at the very least the feasibility of a hold-the-line policy with respect to any increase in manpower, saving perhaps as much as \$5 million annually from contemplated ex-



pansions. As for the protection afforded, availability of companies under the plan proposed by Mr. Hutson, after extensive field studies, stood up amply under the test of applicability to the three worst fire situations experienced in the last ten years. At the request of the Mayor's Committee on Management Survey, this specific plan for the reduction and relocation of engine and ladder companies and for the strengthening of the remaining companies was submitted by the Mayor to the National Board of Fire Underwriters for review, since the Committee's first concern here is adequate fire protection.

The National Board of Fire Underwriters reported to the Mayor on November 17, 1952, concurring in the recommendations for the discontinuance of 18 engine companies and 11 ladder companies, and very substantially agreeing with the related recommendations made by Mr. Hutson.

Partly because of the rigidity of its specifications, which tend to rest upon specifications for equipment previously purchased, and partly because of lack of initiative of the Department in availing itself of improvements, New York City's apparatus does not reflect fully the technological advances that have been made. Highlights of manufacturers' suggestions on apparatus were transmitted to the Department, and should be carefully analyzed. A 10-year apparatus and hose purchase plan drawn according to needs as seen by the Fire Department would total \$10.6 million as against \$7.8 million for the Hutson plan.

Auxiliary equipment as suggested in the Burke Report might involve expenditures of \$340,000 to \$405,000, as New York City must provide whatever is

necessary to insure the safety of its fire-fighting personnel.

With respect to the Marine Division, it is obvious that certain overage boats now in use must be replaced very soon. However, a thorough study of conditions in New York and of the latest developments in design must be made before deciding upon a "prototype" boat. The City should seriously reconsider the project for the large-size boat, presently in the capital program, which might run well above \$1.5 million.

Serious consideration should be given to abandoning the present berth at the foot of 135th Street, with an official reduction of the number of marine fire companies from ten to nine (contingent upon acquisition of two light-draft twin-engine boats, and upon having a reserve boat as a standby).

The Fire Department should not proceed with any of its present long-term capital program without thorough review. The proposal of the \$1.6 million Brooklyn Headquarters building should be dropped, in view of the many recommendations in the Lazarus management Report, and in previous Reports by others, for consolidations and streamlining. The purported need for a new Headquarters Office Building requires restudy, since it is not unlikely that additional space may become available in the Municipal Building.

No drastic revisions in over-all organization are required, because the Department has already eliminated certain questionable conditions of dual top uniformed command since the inception of the Mayor's Committee work. However, there are excessive top layers of supervision in the uniformed command, and the Brooklyn-Queens Borough Command should be abolished.



The present number of deputy chiefs assigned as assistants to the Chief of Department should be reduced, especially in view of the short tours of duty assigned to them. Their hours should be made to conform to the working tours of the remainder of the uniformed force.

No appreciable progress has been made in operational planning since the Citizens Budget Commission called attention to serious deficiencies in this regard in 1943. There should be continuing statistical analysis of the type exemplified by the Valinsky Report. Whether or not a change in the number of companies is made, the Fire Department should make a detailed study of assigned company response on serious fires to limit long runs of ladder companies to outlying areas where ladders on pumpers would be sufficient, to assure coverage of all territories by companies acquainted with streets and buildings in each territory, and to equalize as much as possible the work of companies.

As to better business management—by virtue of improved clerical routines, better utilization of manpower, better distribution of work load, merging of certain facilities, improved budgetary control, and the like—there are, according to the Lazarus Report, opportunities for economies totaling between \$1,350,000 and \$1,650,000. In the Division of Fire Prevention and Combustibles alone, after exhaustive examination of work loads, procedures, and supervision, the consultant estimates that annual savings of \$700,000 are possible. Significant economies through consolidations will result from the closing of the Brooklyn office of the Division of Licensed Places of Public Assembly, the consolidation of the

Manhattan and Brooklyn offices of the Division of Fire Investigation, and the immediate closing of the Brooklyn unit of the Division of Finance and Supply.

In connection with improved utilization of uniformed personnel, responsibility for fire safety in theaters should be borne by the theater owners and operators. Approximately 150,000 additional man-hours, representing a present cost of \$300,000, would thus become available for line duty. The Lazarus Report shows that with proper management, reassignments of personnel, etc., some 225 of the 333 full-duty men could eventually be reassigned to active fire-fighting service (although relieving able-bodied firemen from clerical work will in many cases require increases in civilian clerical personnel).

Very little advance has been made in the Fire Department's training program in the past 20 years. Educational techniques, subject matter, training aids, and instructor training are seriously inadequate. There is also a tragic lack of adequate teaching staff, with not a single individual in the entire Department of over 10,000 men assigned to full-time training. The Fire College should be reorganized and strengthened immediately, along the lines of the Just Report.

Prior to October 1, 1951, the City contributed 55 percent to the Police and Fire Department pension funds. This was already higher than the 50 percent paid into other funds; however, the City's share has now been raised to 75 percent for both Police and Fire, resulting in a corresponding increase in "take-home" pay. This revision is unrealistic and results in unreasonably heavy cost to the City, although the greater hazards faced should be recog-



nized appropriately, in view of the Committee. The Committee therefore recommends that legislation be adopted, applicable to new entrants, to provide that the City's share shall be 50 percent, and that no new members shall be eligible for retirement before age 45. The Committee proposes that these changes be introduced when salaries are increased so that there may be no hardships. To the extent that there are special hazards in the police and fire services, the Committee feels that these should be taken care of by special insurance carried by the City and by the

general level of salaries paid. The effort to deal with these differentials through pension contributions is thoroughly unscientific.

The pay level of firemen is regarded by the Institute of Public Administration as liberal in comparison with other City departments and other cities. However, the Institute suggests that automatic pay increments be extended for seven or eight biennial steps, instead of the present three, rising to higher levels than at present except for lieutenants. Greatly increased strengthening of personnel administration is also called for.

## THE POLICE STUDIES

Cost of operation and maintenance of the New York City Police Department, including salaries, pensions, physical plant, equipment, and supplies, is around \$115 million, with millions for capital outlay still to be added.

Numerical police strength in June, 1952, was 18,502 against an authorized 19,997. These are at or near the highest figures in the Department's history. Even though the number of non-police employees has been enlarged, the uniformed ranks who perform clerical and manual tasks have also increased over the years.

At the time of the Institute of Public Administration Report, 1,126 patrolmen and 29 policewomen were performing duties that could be discharged by non-police personnel at substantially lower pay and side benefits. Such substitutes would total 1,087, or 39 less than the police assigned. Of the latter, 684 may be cadets or light-duty men. Of the foregoing, 150 assignments suggested have been adopted, and are given effect in the 1952-53 budget at an estimated

saving of \$110,000. All told, some 850 to 900 men are ultimately involved. The Institute Report did not try to determine the maximum police manpower requirement, because of the lack of accurate crime reports. The Report did, however, show how the force provided for in the budget could be organized and deployed to cover crime and traffic requirements most effectively. It was therefore proposed first to use the existing force efficiently, then to watch the results as measured in the new crime statistics, and finally to increase or decrease the strength of the force on a scientific basis. While this plan was under consideration, a not entirely valid "crime wave" was zoomed up in the press, and the Mayor and the Police Commissioner were led to augment the force without awaiting the results of the recommended redeployment.

The IPA Report cites grave weaknesses in police selection and promotion, which have existed in the recent past, and places much of the blame on Municipal Civil Service Commission.



Qualifying tests fall far short of accepted standards, and modern test batteries for general intelligence are urgently recommended. Avoidable long delays impede recruitment, the physical, character, and mental tests requiring from 14 to 18 months for completion. Mass handling of applications by the Civil Service Commission should be modernized with greater use of "live registers."

It is recommended that the age for appointment be 18-24, rather than the present 20-29. However, this is contingent upon acceptance of the three-year cadet period suggested as part of the personnel improvements. The probationary period should be extended.

The Report also calls for a complete renovation of the Police Academy, and urges field visits by appropriate officers to training centers operated by certain leading cities and states and the FBI.

A full career service should be developed for policewomen, who are now ineligible for promotion to sergeant, lieutenant, or captain.

Past disciplinary policy in the Department was found to be weak, and penalties for infractions too light. Days lost through illness and injury have been excessive in the recent past.

The IPA Report proposes changes which would reduce the present 85 precincts to 70 and 21 divisions to 19, and would absorb the special midtown squads into the precinct commands. The Department's current plans for replacing obsolete stations at an average cost of almost \$500,000 for sites and buildings should be seriously reconsidered. However, an adequate headquarters building is urgently needed, according to IPA, and a worthy setting for the Police Academy should enjoy early precedence.

There should be closer supervision of patrols—one sergeant for each six or seven patrol units. This would probably accomplish more than any other single change to re-establish security of life and property. Extension of one-man patrol cars is urgently recommended, so that more foot patrol will be available in troublesome areas.

In 1951, the 559 traffic fatalities were less than half as many as in 1929, the peak year. However, traffic moves but little faster than in the days of the horse and buggy, although the traffic division of some 2,300 men is about 13 percent of the total police personnel. A major realignment of the Police Department must be effected to add to the total traffic effort, including revision of division boundaries to coincide with major traffic streams, and changes in routine procedures, use of guards at school crossings, redesign of traffic forms (especially summonses), investigation of accidents, analysis of data, and the like. Members of divisional and precinct commands should not be divided, as now, into two separate categories, "traffic men" and "patrol men"—all must be members of a single general field force. However, a qualified technical traffic staff for headquarters should be created, retaining certain specialized activities.

Criminal investigation requires closer control. Abuses in crime reporting have been corrected as a direct result of the IPA studies. For some years, the accuracy of New York's crime reporting came increasingly into question, and New York was excluded from the national tabulation of the FBI uniform crime reporting program. However, a reversal was made in 1952. As a result, the number of certain types of recorded crimes rose by leaps and bounds, dem-



onstrating the gross inaccuracy of previous totals. Reported robberies rose by 400 percent, assaults with gun and knife by 200, larcenies by 700, while burglaries zoomed to a level 13 times higher than that prevailing in 1948. Three major changes have been made: (1) central control over all criminal complaints; (2) withdrawal from precinct officers and detective squads of their decentralized control over initial recording; and (3) establishment of separate communications and records facilities at headquarters.

Much better control over the work of detectives and review of results are needed. Divisional inspectors and precinct commanders of the several field forces should be given immediate charge of detective squads now operating independently of them in each precinct station. Headquarters and Borough offices of the detective division remain intact under this proposal.

The IPA concludes that the Police Athletic League absorbs too much police time and does not belong in the Police Department. The IPA feels that police solicitation of funds is undesirable and that the crime prevention features are overemphasized and can be handled better through other youth agencies. The police should discontinue responsibility for PAL as soon as other community agencies are prepared to take over.

The Police Emergency Service Division is overextended, with 710 police and 97 pieces of major equipment. Operating costs are in excess of \$3,250,000 annually, and rising. The radio emergency patrols should be distributed among the 19 divisional inspectors, and 17 of the 20 emergency trucks should be transferred to the Fire Department. All the marine patrols except three

should be discontinued, with two launches retained for standby reserve. (Any slack will be taken up by the U. S. Coast Guard, which withdrew from many of its local duties when the police took them over.) Flying equipment should be reduced to two helicopters. The ambulance service maintained for the Police Department's own members should be discontinued. Fire Department ambulance service can serve both uniformed forces.

Administrative improvements in motor maintenance (costing annually, together with new cars, \$2 million) and in handling recovered property are being installed as recommended.

The Police Department cannot effectively operate an emergency ambulance service. The Hospital Council in 1950 reported that either the Police or Fire Department should operate such a service, and the Subcommittee on Hospitals of the Mayor's Committee itself had considered the recommendation. However, costs for police operation would be excessive, partly because of patrolmen's salary and pension, and bills before the Council for creation of the Police ambulance service have therefore been withdrawn.

The IPA Report finds against transferring transit police, currently under the jurisdiction of the Board of Transportation, to the Police Department, as advocated by the Day & Zimmermann-Coverdale & Colpitts Report on transportation. The Mayor's Committee has accepted the IPA view.

On salaries, the IPA Report finds that the police already enjoy a position superior to that of other groups of similar qualifications both inside and out of City employment, and that while police hazards are higher than those



for sedentary occupations, they are not so high as those of some other outside workers—sanitation, for example. In addition, the police enjoy generous pensions, disability benefits, and absolute tenure. As a result, no salary increases are recommended by the Institute. However, IPA advances a new salary plan for the future, in which terminal rates proposed are higher for most ranks than now apply. The plan starts with police cadets, and the rank of patrolman becomes promotional instead of the present beginning rank. A principal feature of the proposed plan is that it assures increments for patrolmen over a longer period than now prevails, reaching finally to moderate professional levels. Similar extended periods for increments are applied to sergeants, lieutenants, and captains.

The Mayor's Committee on Management Survey endorsed the plan for study and recommended that pension contributions by the City be reduced for future entrants to 50 percent, when salaries are next raised, so as to make all city pension systems uniform in this particular. The committee recognizes that such a change should not be introduced except at a time when salaries are being increased, to avoid hardship, and that the change should be applicable only to new entrants if constitutional rights are involved. The Committee would also re-

strict the right of retirement below age 45 in order to cut pension contributions from the employees. To the extent that police service is more hazardous than other service, the City should carry appropriate insurance, and should adjust the pay scale to attract the men required. In the opinion of the Committee, a specially subsidized pension is the wrong way to meet the situation.

The IPA Report proposes that the seven deputy commissioners should be reduced to three, or at the most five. Under the proposed scheme, the Police Commissioner is in general and direct command of arms and services alike. The chief inspector may then properly be designated as the Commissioner's executive officer for the general field force and allied enforcement units.

A notable feature of the IPA police survey Report is the evidence which the Report contains of installation of constructive recommendations during the course of the work through the action of the Police Commissioner. Commissioner Monaghan has announced that nine of the major recommendations of the Report have already been installed and three others have been accepted in principle. The other recommendations are under active study and will be dealt with as soon as the Commissioner has had time to give them the consideration they deserve.

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## CHAPTER IV

# Finance

### EDITORIAL NOTE

The general summary volume, "The Financial Problem of the City of New York," embraces all the studies conducted for the Mayor's Committee on Management Survey by the project group on finance, under the general direction of Robert M. Haig and Carl S. Shoup. Because of the overriding importance of these studies, the entire 558-page volume has been brought out in printed form, in addition to the digest of the volume included as Section 1 in this chapter.

Numerous authorities collaborated on the various studies. While the results of their work were incorporated in the summary volume, certain of their Reports were considered by the project directors to be important enough to be published as separate monographs. These are not separately digested here, inasmuch as their substance is contained in corresponding chapters of the general summary volume. Chapter I of this volume provides a complete list of the monographs.

All the Reports on general management studies in various City departments called for more realistic budgeting, with appropriations and performance set up in such a way as to provide a positive management control tool. In general, the consultants working on the other studies were told to refrain from extensive elaboration on this point, because of the City-wide treatment of the subject in the finance studies. Accordingly, it was considered desirable to have a more extensive treatment of the



subject than that provided by the general summary digest, and a separate chapter on budgeting was therefore included as Chapter V of Volume I. It draws upon the supporting monographs and contains an example of such budgeting techniques as applied to the Department of Welfare.

The general summary volume published by the consultants contains an appendix to its Chapter XIII, dealing with fiscal independence of the Board of Education. While this is dealt with briefly in Section 1 of this chapter, a more extended digest of this appendix has been included in Chapter XIII of this volume, on education.

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## SECTION 1

# FINANCIAL PROBLEMS OF THE CITY

By

ROBERT M. HAIG AND CARL S. SHOUP

New York City is the fiscal giant among the cities of the world. Its expense budget for 1951-52, some 11½ billion dollars, is five times the budget of London and eight times that of Paris, and is 40 percent larger than the New York State budget. It is even large compared with some of the big private corporations; in current revenue, it about matches the giant chemical concern, Du Pont. The population of New York City is 14 times that of the next largest city in the State, Buffalo.

New York City gets nearly three-fourths of its current revenue from taxes and other revenue measures voted by the Council and the Board of Esti-

mate (the rest from State and Federal grants). But the City has less control over its fiscal destiny than this figure might suggest. It cannot tax real estate more than 2 percent of the five-year average of aggregate full value for purposes other than debt service. It cannot incur debt to exceed 10 percent of that same base, except as allowed by particular amendments to the constitution. It cannot raise the rates of the sales tax or the general business and financial tax without consent of the State. There are practically no new taxes that it can use without first getting consent from the same source. And, though to a less important degree in practice, it is also guided by the State in the amount and type of expenditures it may or must make.

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Digest from "The Financial Problem of the City of New York," by Robert M. Haig and Carl S. Shoup, June, 1952.



## The Pattern of the City's Expenditures and Revenues

Public welfare and hospitals accounted for over \$300 million of the City's expenditures in 1949-50. The next biggest City function is education: \$269 million in the same year. Fire protection, police, sewage disposal, and street construction, maintenance, and cleaning all together accounted for \$294 million. Miscellaneous items made up the remainder. These figures include operating expenses and capital outlay. This is a drastic change in pattern of expenditure from 30 years ago. In 1922, public welfare and hospitals accounted for only \$22 million, or 8 percent of the total, instead of the 31 percent in the later year. Education, although using more dollars now than in 1922, accounts for only 27 percent of the total in place of 38 percent 30 years ago. Expenditures for highways and for public safety also account for a smaller percent of the total now.

What of the change in total expenditures of the City—current expenses and capital outlay—over the three decades? The total has risen from \$334 million in 1922 to \$1,197 million in 1950, an increase of 258 percent. But the City's population is much larger now than it was then. Also the general price level is higher now than then. When these two factors are eliminated, by expressing the expenditures as so much per person, in terms of 1949-50 price level dollars, the increase is only from \$85 per person in 1922 to \$153 in 1950—an increase of 80 percent. The 1950 figure is well below the peak, which was reached in 1938, of \$175 per person (in terms of the 1949-50 price level). There was a sharp decline during the war to \$121 per person in 1944.

The national income per person is much larger now, even when the change in the price level is taken into account, than it was in 1922; and so too, presumably, is the income of the average New York City resident. He is buying more clothes and more automobiles, etc.; he might be expected to be buying more municipal services. Altogether, the growth in the City's expenditures over the 30 years can scarcely be called alarming from an economic point of view, whatever may be the facts as to increases or decreases in efficiency.

It is, of course, still imperative to strive for the utmost improvement in efficiency. This fact is emphasized by the difficulty of raising the added revenues that the City evidently will need.

The real estate tax is by far the most important source of revenue for the City. In 1949-50 it produced \$527 million, or 47 percent of total City revenues. The tax rate was close to 3 percent. In 1951-52, at a rate close to 3.27 for the City as a whole, the tax is budgeted for \$615 million.

The retail sales tax supplied 12 percent of the City's revenues in 1949-50, at a 2 percent rate; the proportion will be higher now, with a 3 percent rate. The tax on gross receipts of business produced 6 percent. These are the big three of New York City taxation; all the other City taxes together produced only 2 percent of total revenues. Fees, license charges, etc. add a very small amount. The rest, more than one-fourth of the total City revenues, comes from grants by the State and Federal governments. The biggest in 1950 was the welfare grant (\$138 million); the State, aided by Federal grants for specified welfare purposes, covers approximately 80 percent of the City's major welfare programs, chiefly home relief and aid



to dependent children, the aged, the blind, and the disabled (unemployment compensation and social security pensions are not City programs). The third major grant from the State is the per capita grant of \$6.75 per person in the City; this money may be spent in any way the City wishes. Thirty years ago, grants played a much smaller role, City taxes a much larger one, relatively. And the only City tax then was the real estate tax. Thus, in the 1920's, the real estate tax supplied about five-sixths of the City's total revenues; in 1950, not quite one-half. In those days there was no welfare grant, and no per capita grant (but there was some sharing in certain State taxes). Consequently, the City tax load has not risen quite as fast as City expenditures; but of course City residents help pay the State and Federal taxes that finance the grants. City taxes per person, expressed in terms of the 1949-50 price level, were \$71 in

1922 and \$96 in 1950 (in 1940 they were \$128).

### **The New York City Debt**

As of mid-1950, the City's debt was slightly over \$2 billion, net. Practically all of this was long-term debt. (The debt is over \$3 billion, on a gross basis, that is, disregarding the large sinking funds that have been built up to retire some of the debt.) About half the net debt is of the sinking fund type; the other half, serial bonds. Not far from half the net debt has been incurred on account of the subway system. The water supply system accounts for another 20 percent. The City has no obligation with respect to the quarter-billion dollar debt of the Port of New York Authority, or for the debt of about the same size of the Triborough Bridge and Tunnel Authority. (Further details on the debt are given at the end of Section 1.)

## **A COMPARISON WITH OTHER LARGE CITIES**

### **Cities Over 25,000 Population**

During the past decade, the expenditures of New York City have risen more slowly than the combined expenditures of all cities of more than 25,000 population. From 1942 to 1949 the combined expenditures of these 397 cities (including New York City) rose 78 percent, against 53 percent in New York City alone.

### **Sixteen Other Large Cities**

**Expenditures** — In contrast to New York City, most other very large cities contain overlapping jurisdictions, especially school districts and counties, that perform important local government functions. However, we may allocate to the city area an appropriate part of the

cost of those functions performed by the overlapping authorities if we wish to compare New York with the other very large cities. Included in the following comparisons are all cities with more than 500,000 population, except Chicago, Cleveland, Houston, and Minneapolis, which were omitted because of lack of data. In their places were included four cities between 250,000 and 500,000: Newark, Denver, Portland (Oregon), and Jersey City. (Buffalo is excluded in this section because it is covered in the discussion below.)

In these cities, do costs per person rise as the size of the city increases? According to 1949 expenditure data, the answer is no; there is no consistent relation between size and per person



expense, one way or the other. Nor is there any relation between expense and density of population.

In expenditures per person for police, New York City in 1949 ranked sixth among the 17 cities, while it was seventh in the ratio of police to population. It ranked first, however, in maximum salary for police. In expenditure for fire protection per person, New York was seventh. The wide variation among the cities is notable. In police protection, Boston ranked first, with \$12.50 operating expenses per person; New Orleans, 17th, with \$5.20. For fire protection Boston, again first, spent \$10.31 per person; New Orleans, again last, spent \$3.73.

There was less variation in education expense. Newark was first with \$37.60 per person; New Orleans last, with \$20.20; New York was ninth, with \$29.91.

New York's aggregate expenses for public welfare were close to the median for the eight large cities for which aggregate data were available. As to the subcategory of general relief, New York spent \$4.81 per inhabitant—much more than some cities, much less than others; there is a wide variation in this kind of outlay. For old-age assistance, New York was well down in the lower half of the cities (\$5.24 per inhabitant); several of the cities ran well above \$10 per inhabitant.

In per person expenses for highways (streets), New York ranked tenth among the seventeen (\$4.20). The range here was not so great: Cincinnati was first, with \$7.25, and St. Louis last, with \$2.30. In sanitation expenses, New York was fifth, at \$6.62. Newark was first, at \$9.30; St. Louis again seventeenth, again at \$2.30. In highway

(street) expenditures there appears at last some relation between per person expense and size of city, but it is an inverse relation: the smaller the city, the higher the costs per person. Likewise, the less densely the city is populated, the higher is the per person cost.

New York City leads the pack in its contribution to cover deficits of city enterprises. This, of course, is due to the subway system. New York needed \$10.01 per inhabitant to cover the operating deficits and the debt service charges of those enterprises that showed a loss in 1949. The second city in this ranking was Newark, with \$4.08.

In general, then, New York City's per person operating expenses in 1949 were close to the point (the median) where half the cities would show higher costs and half, lower. Ten years earlier they were well above the median. Evidently New York's expenditures (operating expenses) have increased at a slower rate than those of the 16 other cities on the average.

**Revenues**—On the revenue side, comparisons including overlapping jurisdictions may be made with the 16 cities above.

In proportion of total revenues supplied by the property tax, New York was well below the median (57 percent) in 1949. It obtained 49 percent of its revenues from this source; Newark, the highest, obtained 81 percent; New Orleans, the lowest, 40 percent. Ten years earlier, practically all the cities had been obtaining considerably larger proportions from this source (median, 69 percent).

The above figures include allocated revenues of overlapping jurisdictions. Taking only city revenues into account, the highest city in 1949 was Newark,



82 percent; and the lowest Denver, 33 percent. (The figures for New York and Boston are unchanged since these cities have no overlapping jurisdictions.)

The property tax rate on a full-value basis varied widely. Per \$1,000 estimated full value of taxable property, the tax rate, in 1949, ranged from \$13 in Cincinnati and \$14 in Washington, D. C., to \$57 in Boston and \$59 in Jersey City. In New York City it was \$28. The median was \$29 (Baltimore). These figures can be only approximate; the actual rate is computed by estimating the degree of underassessment of property, and this degree is not known precisely. This comparison used only 14 of the 16 cities, since data are not available in sufficient detail for Pittsburgh and New Orleans.

General sales taxes and gross receipts taxes (here we have data for all 17 cities) were found only in New York City and New Orleans in 1939; but by 1949 they were in 7 cities, supplying from 6 percent (St. Louis) of total city revenues, excluding overlapping jurisdiction, to 20 percent (New Orleans). In New York they supplied 19 percent.

All other types of city taxes in 1949, excluding revenues of overlapping jurisdictions, supplied as much as 36 percent (Washington) and 34 percent (Philadelphia); both cities use a personal income tax. The proportion was as low as 2 percent (Detroit) and 3 percent (Boston and San Francisco).

What of grants from the state or Federal government? New York City ranked well up, in 1949, in percentage of total revenue obtained from these sources. The lowest figures among the 17 cities were 5 percent (Jersey City), 6 percent (Newark and Pittsburgh), and 7 percent (Philadelphia). The high-

er figures were 37 percent (Denver), 35 percent (Los Angeles), and 34 percent (Baltimore). For New York City the proportion was 24 percent. The median (Washington) was 18 percent (Federal grants only, of course).

The miscellaneous category, all other revenues, did not play an important role in New York; only 4 percent came from those sources in 1949, the lowest proportion among the 17 cities. Cincinnati got 35 percent from these sources. In most of the cities the proportion was below 15 percent (excluding revenues of overlapping jurisdictions).

### The "Big Six" Upstate Cities

A similar comparison may be made with the six largest Upstate cities: Buffalo, Rochester, Albany, Syracuse, Utica, and Yonkers. If (in contrast to the data above) capital outlays are included, New York City's per person expenditures were highest of the seven cities in both 1940 and 1948. But in operating expenses alone, the City was well below the highest Upstate figure in both years. In 1948, the New York City figure was \$92.72; the highest (Rochester) was \$106.45. Only in public safety, among the subdivisions of operating expense, did New York City lead the list.

**The Increasing Role of County Government Upstate**—County government plays an important role Upstate (the overlapping part has been included in the figures above); from 32 to 40 percent of the expenditures in the six Upstate city areas was made by the County, not the City, government. In New York City, of course, the percentage is practically nil.

On the revenue side, New York City's estimated average property tax rate



per \$1,000 of full value was lower than that of any of the other six cities: \$29.23, against a high of \$45.63 (Utica) and a low of \$38.06 (Yonkers). Again, however, the equalization rates used to compute these figures are probably not very accurate.

The higher property tax rates Upstate reflect in large part the fact that those cities do not, in general, make use of the sales tax or gross receipts tax, in contrast to New York City. In 1948 the only Upstate localities using the sales tax were Syracuse (2 percent tax) and Erie County (1 percent tax). Several of the smaller Upstate localities have imposed sales or other taxes since then.

### London and Paris

A study of London and Paris finances reveals how decentralized our system of government is, at least in comparison with those large cities.

In London, the police force is an arm of the national government; and most welfare expenditures are the responsibility of the national government. London has no direct expenses for hospitals. The urban transport system does not affect the London budget, for it is part of the nationalized transportation service. Total London expenditures on current account including debt service were about \$250 million in 1949-50 for the area known as the County of London (what the tourist regards as the city of London). But the population of this area is only about  $3\frac{1}{3}$  million. For the "Greater London" area, which we may take as that within the Metropolitan Police District, with a population of over eight million, total revenue was almost \$500 million in 1949-50. It is this figure that may be compared,

roughly, with New York City's budget of over one billion dollars in the same year.

The largest expenditure item in London is education. Housing subsidies (much more important than in New York City), street and highway maintenance, fire protection, and garbage and refuse disposal account for most of the rest.

The only tax London levies is the property tax (the "rates"). It is based on rental, actual or imputed, not on capital value. The values used are still pre-war rentals, so the rates look high—not far from 100 percent of the rental. The national tax administration (Inland Revenue) has taken over the job of valuing properties, and is engaged in a large-scale program of revaluation.

Within the County of London there are 28 metropolitan boroughs, plus the tiny City of London (the financial district). Each of these has a certain degree of financial independence, levying its own property tax rate. Moreover, there is an internal equalization fund in London; from the London-wide rate levied by the County Council, certain amounts are distributed to the poorer metropolitan districts; it is as if Park Avenue paid money into a fund that went to East Harlem.

Grants from the national government (there are no intervening "state" levels of government) supply about 30 percent of the total revenue of Greater London. The property tax accounts for almost 50 percent. The rest is from miscellaneous local sources, including fees and charges.

In Paris, too, the national government performs many of the services that in New York are the responsibility



of the City government. Police is a notable example. Even the local services in Paris are administered mostly not by the city itself but by the Department of the Seine, whose governor is appointed by the national government. Moreover, neither Paris nor the Department of the Seine has a tax assessing or tax collecting body of its own (with minor exceptions); the local taxes are usually just additions to a national tax, chiefly the sales tax, and are collected by the national tax administration.

## PROJECTIONS OF BUDGET REQUIREMENTS AND REVENUE YIELDS

On the assumption that New York City will provide services to its residents at the level and within the scope planned for in the 1951-52 expense budget and the 1951 capital budget and capital program, we estimate that the City's total budget requirements will be slightly over \$1,400 million a year for the next four fiscal years (1952-53 to 1955-56). This estimate assumes continued high employment with no further inflation. If inflation takes hold again, the budget requirements will rise sharply. For example, if consumer prices rise during those four fiscal years at 7 percent a year (about the same as in the period 1945-49) and capital goods prices by 10 percent a year, New York City's budget requirements would be about \$1,500 million in fiscal 1954, not far from \$1,700 million the next year, and almost \$1,800 million in fiscal 1956.

Finally, if such an inflation lasted only a couple of years and was followed by a severe depression, the budget needs for fiscal 1956 might slightly surpass \$1,800 million, as relief costs mounted.

Budget requirements, as used here, include debt service on all nonenter-

The current expense budget of Paris for 1950 was about \$120 million; the public works and investment budget was about \$40 million. The population of Paris in 1946 was 2,750,000 (Department of the Seine, 4,800,000).

About three-quarters of the current expense budget is covered by taxes, and over half the tax revenue comes from the sales tax. Taxes on real estate take several forms, but they are a small proportion of the total, even when in the aggregate; they supply only 12 percent of the tax revenues.

prise debt, and the deficits of those enterprises (chiefly the transit system) showing deficits, including debt service on enterprise debt.

The estimates assume an increase in the 1952-53 budget of wages and salaries of those City employees whose compensation is still below the 1940 level of purchasing power. No assumption is made about increased money savings from efficiency resulting from the Management Survey, as such data were not available when our estimates were compiled.

Additional personnel is assumed in these estimates only to the extent necessary to operate new capital projects to be completed by 1956 under the program submitted in connection with the 1951 capital budget program, to maintain the 1952 pupil-teacher ratio, and to meet any assumed increase in welfare case loads.

In view of the limited amount of additional services implied by these assumptions, the dollar amounts projected may, of course, turn out to be lower than the reality. Other factors also may raise actual expenditures above the estimates



For example, it now appears that our estimate of the operating deficit of the transit system (\$30 million a year after 1952, with stable prices) is too low.

The New York City revenue system as it existed on January 1, 1952, would not yield revenues, in the four years ahead, sufficient to meet the expenditures projected above.

Assuming stable prices and full employment, the real estate tax yield within the 2 percent limit would grow gradually from \$368 million for the fiscal year 1952 to \$392 million in 1956. The debt-service-levy portion of the real estate tax would increase from \$211 million to \$269 million. These yields imply a combined rate of 3.36 percent by 1956. From the combined yield, \$20 million would have to be subtracted in each year to allow for cancellations and delinquencies. Thus the total net receipts from this source would rise only from \$559 million in 1952 to \$641 million in 1956. The yield of the sales tax at 3 percent would increase from \$277 million in 1952 to \$315 million in 1956.

Federal and State grants, under these assumptions, would remain relatively unchanged at about \$300 million a year. The yield of other, minor, taxes and of nontax items would remain slightly above \$80 million annually.

Total revenues would rise only from \$1,222 million in 1952 and \$1,246 million in 1953 to \$1,344 million in 1956.

Thus the gap, to be filled by new revenue or reduced expenses, would be \$165 million in 1953 (it would be smaller if not all the short-term debts were retired that year) and would sink only to \$93 million by 1956. And this is under the most favorable economic assumption—full employment throughout the period, without inflation.

Under inflation, the increased rise in expenditures would outstrip the further rise in revenues from inflation, and the revenue-expenditure gap would be slightly over \$300 million by 1956.

If 1955 and 1956 were marked by a severe depression, following the inflation, the gap would widen still more, to \$381 million by 1956.

To be sure, these figures are only projections, based on certain assumptions, and the assumptions may prove to be unreal. The statements above should not be taken as definite predictions; still, they give evidence that the City will have to raise substantial additional revenues. Indeed, developments that occurred after these computations were made indicate that the gap for the forthcoming year (fiscal 1953) will be even larger.

## THE REAL ESTATE TAX

The property tax in New York City is restricted to real estate. Ordinary real estate is valued for tax purposes each year by the regular assessors of the City Tax Department. Real estate of utility corporations is assessed by a special group of assessors in the City Bureau of Real Estate of Utility Corporations. Finally, the “special fran-

chises,” that is, the right to “construct, maintain, or operate private property above, on, or below a public street, highway, or place, together with the tangible property so used,” are assessed by the State Tax Commission.

Ordinary real estate is by far the largest portion. For 1951-52, the assessed value of taxable real estate in



New York City totaled \$18.8 billion, of which \$16.3 was ordinary real estate, \$1.7 billion real estate of utilities, and \$0.8 billion special franchises.

A major part of the assessed value of ordinary real estate consists of dwellings: one-family dwellings, \$2.1 billion; two-family dwellings, \$1.7 billion; walk-up apartments, \$3.4 billion; elevator apartments, \$2.7 billion. Office buildings account for \$1.7 billion, loft buildings for \$1.2 billion, and store buildings for \$0.9 billion. Factory buildings account for only \$0.5 billion, and vacant land only \$0.4 billion. A few other minor categories complete the \$16.3 billion. All these figures except the last include both the buildings and the accompanying land.

### Revenue and Assessed Values

In the 1920's, the property tax supplied about 80 percent of the City's revenues from all sources. In 1950-51 it supplied only half. The tax levy for 1951-52 was \$615 million, only \$135 million more than the yield in 1930, despite the great rise in prices since then and some growth in population. Indeed, if the property tax yield is expressed as so much per person, and if the influence of price change is eliminated by expressing the figures in 1949-50 dollars (dividing the earlier figures by a price index), the 1950 per person yield of \$67 is 30 percent below the 1930 yield of \$96. That is to say, in 1950 the average New York City resident sacrificed 30 percent less purchasing power in paying his property tax than he did in 1930. He even sacrificed less than he did in 1922 (per person yield, in 1949-50 dollars, \$69).

This decline in the real weight of the property tax cannot be attributed to any decline in tax rates—quite the contrary. In 1930 the average tax rate (in-

cluding assessments collected with taxes) was 2.68 percent on assessed value; in 1949-50 it was 2.98 percent; and for 1951-52 it was about 3.27 percent. Nor can it be attributed to a disproportionate growth in exempt property. The explanation lies instead in the phenomenal fall in the real value of real estate since the end of the 1920's.

First, consider what happened to the aggregate of assessed values, without adjusting for changes in the general price level. From 1921 to 1932, the taxable total doubled, rising from \$10.0 billion to \$19.6 billion. It then fell to a low of \$15.8 billion in 1944-45, and recovered only to \$18.8 billion in 1951-52.

The \$18.8 billion does not mean as much now as it would have in the 1920's, in view of the generally higher level of prices now. If we look at some of the more important areas within New York City, and make an adjustment for changes in the price level, some startling declines over the past two decades are found. Consider land values in Manhattan: the taxable assessed value of land (that is, excluding improvements) in Manhattan was \$5.5 billion in 1932, and \$3.6 billion in 1951-52. Thus we observe a decline even in current dollars. In constant-value, 1949 dollars, the 1932 figure becomes \$7.6 billion. Thus the real value of land in Manhattan has declined by more than 50 percent. These values are, to be sure, only assessed values, but the market values in 1930 (which the 1932 assessed values largely reflect, owing to the necessary lag in making up the tax rolls) were if anything higher, relative to assessed values, than is now the case.

In the same real terms, for the same period, improvements in Manhattan fell 25 percent; and the aggregate land



value even in Queens fell by about the same percentage (the improvements aggregate there rose by some 10 per cent).

These declines in the real value of land and improvements reflect many economic forces: lack of the speculative fever of the late 1920's; pressure of sale of properties acquired by banks and other institutions through foreclosure; depreciation; the higher yield now obtainable on risk-bearing investments; rent control; court decisions on protested assessments; increase in the real estate tax rate; and change in consumer spending habits, especially under the impact of high income tax rates. Still, the extent of the decline in the real value of land in Manhattan is startling, especially when we consider that other forces have been tending to increase values (rise in national income, growth in population, decline in vacancy ratios, and fall in long-term rates of interest).

### **Assessment as Practiced in New York City**

In New York State, assessors are required by the State Tax Law to assess at "full value," and the New York City Administrative Code interprets this to mean what the property would sell for "under ordinary circumstances."

High assessments relative to market values in the late 1930's were defended on the grounds that the circumstances were not ordinary. At the present time, however, there is no general policy of assessing below or above market values, with three important exceptions: one- and two-family houses, which are commonly assessed at about two-thirds of market value; new construction of all kinds, usually assessed at about four-fifths of cost; and prewar real estate

of utility corporations, assessed at prewar reproduction costs less depreciation. As to the houses, it is claimed that recent and current sales prices reflect extraordinary upward pressures arising from rent control of apartment house and other rented space, generous financing by the Federal government, and the accumulated demand from the depression and war years. The under-assessment on new construction is intended to take account of high costs due to temporary postwar building conditions.

Aside from these cases, and a few other minor ones, we get the impression that current assessments of real estate in New York City on the average are very close to fair market value.

Despite the reasons advanced for departure from market value in the cases noted above, we believe it is better in the long run to adhere as strictly as possible to market values shown by typical transactions, and we recommend that assessed values on one- and two-family houses, on new construction, on utility property, and on certain other types where underassessment is practiced, be at once moved up to market value. By 1956 the City could obtain some \$24 million additional revenue by this action. To aid in this rectification, we recommend that the term "ordinary circumstances," in the City Code, be replaced by a phrase cast in terms of buyers and sellers who are reasonably well informed. We also recommend that the law be amended to allow assessed value to be set at higher than reproduction cost less depreciation, where capitalization of income or sales price seems to be the better indicator. We recommend the repeal of an existing provision that allows the taxpayer to collect \$500 from



the City if it attempts to assess a property at a figure higher than that set in a court decision or administrative order for an earlier year.

New York City's assessment organization and personnel rank high, perhaps at the top, among large metropolitan areas here or abroad, but it is living largely on its capital in the sense that it is benefiting from exceptional assessing talent recruited in the depression days when City jobs were relatively attractive. At present low pay scales, under faulty personnel procedure, the City is not attracting the number and quality of personnel that it must have if the assessing procedure is not to deteriorate seriously over the coming decade or two.

We therefore recommend substantial increases in the salaries for assessors, supervisors, and assistants. We also recommend the use of competitive examinations for these positions, administered under rigorous standards, open to anyone who can meet the qualifications. A dangerous degree of inbreeding, of reliance solely upon promotion from within, has been occurring and, if unchecked, will result in serious deterioration of assessment practices.

We also present some recommendations on details of organization and procedure:

(1) Assessors should spend more time in the field, but this will be possible only when the Tax Department gets a more adequate office staff and greater mechanization of record-keeping. There are 139 assessment districts in the City, each with its assessor and assistant (but some positions are at present vacant). Spending four days a week in the field, the assessor and his assistant must value, on the average, 6,000 parcels within the period of August 1-January 25.

(2) With respect to large properties, owners, managers, and those constructing buildings should be required to supply information on income and expenses of the property, amounts and items of sales, costs of construction or purchase, terms of leases, and similar data. From the viewpoint of modern tax administration, it is strange that the tax official must be saddled with the burden of ferreting out this information when he sets the assessed value, while owners and others are allowed to withhold it until such time as they want to contest the valuation before the Tax Commission or the courts.

(3) The Tax Commission reviews, on appeal from the taxpayer, the valuation placed by the assessor. In the appointment of commissioners, technical competence in this field should be weighted more heavily than it has been on some occasions.

(4) Annual publication of the lists of assessed values should be continued, and the document should be made widely available at a nominal price. The publication of land-value maps should be resumed.

## Review and Settlement

If the taxpayer does not agree with the value set by the assessor, he may file an application for reduction with the Tax Commission. If he is not satisfied with the decision of the Commission, he may appeal to the Tri-Departmental Settlement Board, or he may instead take the case directly to court.

The Tri-Departmental Board consists of representatives of the Tax Commission, the Law Department, and the Comptroller's Office. If, following the decision of the Board, the taxpayer takes steps to appeal to the court, a third and last attempt to reach agreement with him is made, again with the Tri-Departmental Board, at a so-called note-of-issue hearing. Finally, if the taxpayer goes to court, the case comes



before the Supreme Court—at a special term of the Court, in Manhattan, where most of the cases occur, and in the Bronx.

In general, then, the taxpayer is given adequate opportunity to present his side of the valuation case. In recent years, protests involving from 20 to 35 percent of the total taxable assessments (though a far smaller percentage of number of parcels assessed) have been filed annually, and appreciable reductions have been made. In 1951, for example, at the first stage of appeal (Tax Commission), reductions were made that amounted to 6.4 percent of the original valuations (1,872 properties); at the next stage (first Tri-Departmental hearings), a reduction of 6.3 percent (1,089 properties); at the next (note-of-issue hearings), 9.4 percent (1,882 properties); and the Supreme Court reduced original assessments by an average of 13.8 percent (15.0 percent in 1950) on 616 properties (408 in 1950).

Perhaps the taxpayers bring to court only their strongest cases—but it is just these that the Commission might be expected to settle, to avoid litigation. More likely, the Court's concept of correct assessment differs from that of the assessors; one justice, handling the bulk of the cases, is reported to hold to a level of values as of the mid-1940's. In the 25-month period ending January 11, 1951, the Supreme Court upheld Manhattan assessments in only 2.3 percent of the cases brought before it. In the light of these and other supporting data, we make the following recommendations concerning review and settlement:

1. A filing fee of \$5 should be imposed, to discourage the large number

of trivial appeals now made to the Commission, often stimulated by "tax reducers" who operate on a wholesale scale.

2. The period of less than four months now available for hearings should be extended.

3. Solicitation, by taxpayers' representatives, of retainers in advance of services rendered should be prohibited, and so should the present practice of charging nothing but a contingent fee.

4. The City should improve its efforts to get the best trial attorneys and experts possible.

5. The Research Bureau should be strengthened (see below our recommendation for a general tax research bureau in New York City).

6. There should be more analysis of the issues before the Court, and the judge should render at least a summary of the reasons for his decision in each case.

7. The present practice of allowing claims with respect to any one parcel to pile up indefinitely should be stopped, by providing that a writ of certiorari dies after five years. This would eliminate the temptation to indulge in retrospective valuations for years long since past.

8. Finally, and most important, the present procedure of having one judge pass on the real estate tax cases should be replaced by one in which special terms of the Court would be established for all tax cases, including sales tax cases, etc. (see below, "Appeal to Courts"), with three justices to serve in each term. All cases relating to property valuation would be heard and decided by three judges. This should help eliminate biases arising from subjective judgments and special viewpoints on valuation inherent in the present system.



## **Adapting the Real Estate Tax to an Unstable Economy**

During periods of great fluctuations in the general level of prices, involving similar fluctuations in real estate prices, such as those that have occurred over the past four decades, the assessor can hardly be expected to keep up with the market. But once he is cut loose by the forces of events from strict adherence to the market, most of the basis for an objective evaluation has been lost.

Perhaps the big price swings of the past will not be repeated in the future. The risk is great enough, however, to justify consideration of the following suggestion.

Each parcel of real estate might be taxed, not on its assessed value for the taxable year, but on the average of its assessed value for the current year and, say, the preceding three years. Then the assessor could move up and down with prices in setting the assessment for the current year, knowing that the impact on the taxpayer, or on the City's finances, would be softened through the delaying action of the four-year average.

This proposal has several advantages and disadvantages. On balance, we believe that such a system, or something like it, is called for if we are to anticipate the same degree of price instability that has characterized the past.

## **Constitutional Limit on Real Estate Tax Rate**

For reasons given under the heading "A Revenue Program for New York City," we recommend that the State constitution be amended to set the real estate tax limit for New York City at

3 percent in place of the present 2 percent.

If the tax rate is raised considerably (as we anticipate it will be), and if the four-year average device suggested immediately above is adopted, we recommend that a limited exemption be given to new construction. The period of exemption should not exceed seven years, and the amount should not be more than one-third of the tax rate.

## **Real Estate Tax Collection**

Procedures for collecting the real estate tax are generally satisfactory, though greater use of mechanical equipment is clearly needed.

The City has three methods of collecting delinquent taxes: (1) appointing a receiver of rents; (2) sale of a lien against the property; and (3) direct foreclosure on and sale of the property by the City. Procedures under the second method need to be revised to prevent favored persons from gaining an undue advantage in bidding for the tax liens. The third method has been in effect only since 1948 (the first public auction was held in May, 1951), and we expect that it will gain in importance.

Specifically, we recommend that under the second method (sale of tax lien) the liens not be sold at below face value. If no bidders take a lien at face value, the tax should be collected under the third method. Meanwhile, until this recommendation is put into effect, regulations under the second method regarding publication of notice, listing of properties, and related procedures should be altered to eliminate the possibility of favoritism.



## SALES TAX, USE TAX, GENERAL BUSINESS AND FINANCIAL TAX

### The Retail Sales Tax

The retail sales tax was enacted in 1934, at 2 percent. The rate was lowered to 1 percent in 1941, raised to 2 percent again in 1946, and to 3 percent in 1951. In the year ending June 30, 1952, it is estimated to yield \$208 million.

The tax applies to the sale or rental of goods, and to the sale of a few services, at retail. This is taken to include the sale to business firms of machinery, fuel, and other items that they use up in the course of business, instead of incorporating them physically in the product they sell. Food is exempted, by a long list of specific exemptions: baked goods, beer, bread, butter, and so on. Drugs and medicine are exempt, if sold to a physician or on his prescription. Meals in restaurants are exempt if under \$1.00. Cigarettes are exempt.

Sales and rentals of real estate are not taxed. The only services taxed are certain public utility services, and certain services performed on the property of another, for instance, printing, but not including repairing for the repairer's own use.

We recommend the following changes in the scope of the sales tax:

(1) Exempt tiny firms—those, say with currently taxable sales of less than \$50.00 a quarter (3 months).

(2) Raise the exemption limit on meals from \$1.00 to \$1.50.

(3) Remove beer and cigarettes from the list of exempt commodities.

(4) Exempt business purchases of objects obviously suited only for business use and not physically embodied in the product the firm sells (even though they are used up by the business). It distorts economic processes, and is unfair competitively, to tax business firms on their purchase of

machinery, boilers, and so on, which, in an economic sense, if not in a physical sense, enter into the final product.

We recommend that the exemption of food and medicines be retained.

The City sales tax is legally one upon the consumer (the purchaser), not the seller. But the City collects from the retailer (the seller), who is presumed to pass the tax on to the consumer. The seller must state the tax separately from the purchase price. He cannot do this precisely where the tax would involve a fraction of a cent (for instance, 3 percent on a sale of 60 cents), so the Comptroller, in accordance with the law, promulgates a schedule for the sellers to follow: no tax if the sale is 18 cents or less; 1 cent on sales between 19 cents and 38 cents inclusive, and so on. For some business firms, the total tax collected from their customers under this bracket system comes to less than 3 percent of their aggregate sales; in this case the business firm must pay the City the full 3 percent and absorb the loss on the "breakage." For other business firms, the bracket schedule will yield more than 3 percent; in this event, the firm must pay over to the City the full yield of the brackets; it is not allowed to keep the plus breakage. The amount thus collected, divided by sales, gives a rate more than 3 percent, and this is called the "effective rate."

The requirement that the business firm turn over the plus breakage is the cause of a certain amount of friction with tax administrators; some taxpayers' records might be adequate to ascertain total sales, but are not detailed enough to show the distribution of sales



among the several brackets. Leaving the plus breakage with the business firms would, of course, cost the City some revenue; but there is no estimate at hand as to how much. Until more is known on this score, we do not recommend collecting only a flat 3 percent from all sellers.

We have analyzed some other arguments that have been advanced for doing away with the bracket system, and perhaps also making the tax legally one on the seller only, not on the consumer, but we conclude that on balance they do not give grounds for abandoning the present system, which has the great advantage of instilling tax-consciousness in the ultimate taxpayer. Moreover, so long as the bracket system is in force, the consumer can deduct his sales tax payments from his income, in computing his Federal income tax.

### **Compensating Use Tax**

To protect New York City merchants against competition, and to prevent consumers from avoiding tax, the sales tax is supplemented by a compensating use tax on tangible personal property purchased outside New York City and brought into the City for use there. At the 3 percent rate, the use tax yields only \$2 million a year.

We recommend a number of technical changes, and that the exempt minimum under the use tax be raised from \$25 a quarter to \$100 a quarter.

### **General Business and Financial Tax**

The general business and financial tax ("gross receipts tax") was introduced in 1934 at rates of 1/20 of 1 percent on gross receipts, on business enterprises generally, and 1/10 of 1 percent on gross income (gross profit) on the so-called "financial" enterprises. After several changes, the rates were

set in 1948 at 1/5 of 1 percent and 2/5 of 1 percent. As to gross receipts, only firms with more than \$10,000 gross receipts are subject to the tax. For fiscal 1952 the tax is estimated to yield \$66 million.

The "financial enterprises," taxed on their gross profit instead of their gross receipts, include commission merchants and securities dealers; but banks are not subject to either branch of the tax.

This tax, unlike the sales tax, is not limited to one stage in the industrial or commercial process. Wherever it is customary for materials or goods to be passed through several hands before reaching the ultimate consumer, the tax cumulates to a heavier burden. It thereby favors the big vertically integrated concerns.

There are no exemptions for food or medicines. Rentals, however, are exempted.

The tax is a crude levy, tolerable only because its rates are small fractions of 1 percent. This tax should be the first to go, whenever the City's financial condition permits any tax repeal.

Meanwhile the law should be redrafted, to impose the tax in more specific terms; the law is now so vague as to cause much friction between taxpayer and tax administrator. Also, the allocation formula for out-of-State sales needs revision; the basis for the rate differential between gross receipts and gross profits is too abrupt and needs to be altered; the requirement for an affidavit on a return (the only City tax with this requirement) should be repealed; and the taxpayer should not, as at present, be required to pay under protest in order to have a right to appeal for a tax refund later.



## Matters Common to the Three Taxes

**Audit Program**—Somewhere around 5 to 10 percent of all active accounts under the sales tax are audited, that is, the taxpayer's books and other records are inspected by an official of the Bureau of Excise Taxes to check on the correctness of his return. The concerns selected for audit are usually the large ones, and a few special classes of small concerns. The average additional tax per auditor for one year has been about \$25,000. An extraordinarily high percentage of the audits result in finding additional tax due by the taxpayer—about 9 cases out of 10. The taxpayers protest these findings in only about 2 cases out of 10, but these cases account for about half the additional tax assessed. Of the amount so protested, the tax administration cancels nearly two-thirds.

To some extent, these high percentages reflect an uneducated body of taxpayers who do not know what records to have on hand when they are audited, or who refuse to comply.

This fact reflects a failure on the part of the City tax administrators to do an adequate job of education and public relations. In part, these high percentages seem to reflect a tendency to base assessments on tenuous grounds. There is some evidence that the Excise Tax Bureau has emphasized extraction of the last dollar possible in the short run, under strained interpretation of the tax laws, at some cost in public relations. Moreover, field auditors work under fairly rigid rules; the audits make use of very short test periods, without any attempt at random sampling.

We therefore recommend that: (1) the audit program be extended to cover many more taxpayers; (2) accounts for audit be selected in part under an audit

control program involving random selection; (3) more freedom be given to auditors in developing data to support assessments; and (4) education of taxpayers be improved.

**Administrative Hearings**—When the taxpayer protests an additional assessment, he is granted an informal hearing in the Excise Bureau. He may then go on to a formal hearing if still dissatisfied, and finally may, with difficulty, appeal to the courts. We recommend certain changes in the hearings procedure, as follows:

1. Inform the taxpayer, in advance of the first hearing, of the grounds on which the claim for additional taxes is based.

2. Provide a staff of technicians to take some of the load of routine work off the shoulders of the conferees, and enlarge the staff of conferees.

3. Plan to run the hearings continuously, unless postponements are requested.

4. Allow the taxpayer to request that the conferee at the first hearing be a lawyer, rather than an accountant, if a legal issue is involved.

5. In the second hearing, now a formal hearing, abolish the formality, which now matches that of a court proceeding. The formality is necessary at present because if an appeal is taken to the court it goes to the appellate division, which bases its decision solely on the written record. We recommend below a change in court procedure that will allow the second hearing to be informal.

**Appeal to Courts**—The difficulty of getting a court review under the City excises is a major source of complaint. The taxpayer must not only have incurred the expense of the formal administrative hearing; he must also deposit with the Treasurer the amount of tax, penalties, and interest, with a bond to cover court costs (for the sales tax,



he may post a bond covering all these items). All but the most persistent or well-to-do taxpayers are thus prevented from carrying their cases to court.

We recommend that appeal from the second stage of administrative hearings (made informal) be taken to the Supreme Court for a trial *de novo*, with witnesses, etc. We also recommend, in conjunction with our analysis of the property tax, that special terms be established in the First and Second Departments, to hear all tax cases. Three Supreme Court justices would serve in each special term, but most excise tax cases could probably be handled adequately by one justice.

**Other Matters**—We also make certain technical recommendations concerning the statute of limitations, refunds and credits, penalties, elimination of the present division of administration be-

tween the Comptroller's Office and the Office of the Treasurer, and the need for prompt issuance of a set of regulations for the guidance of taxpayers. We recommend also that the excises be put on a permanent basis, without expiration date.

As to the personnel of the Excise Tax Bureau, we recommend that salaries of the administrative personnel be raised substantially, that a considerable number of additional auditors be engaged, that outside work incompatible (and this word should be strictly construed) with the employees' public functions in tax administration should be prohibited, and that the tax officials should be encouraged to attend, at City expense, the regular meetings of professional associations, especially the Federation of Tax Administrators and the National Tax Association.

## AN INCOME TAX FOR NEW YORK CITY?

Although the revenue system recommended in a section below does not include an income tax, it must be analyzed, for our projections of expenditures and revenues from the present system may prove too optimistic. Moreover, the choice between an income tax (with perhaps a few supplementary revenue measures) and the revenue program recommended in a following section is a fairly close one; all the issues should be set forth, so that the reader may make up his own mind on this, perhaps the most important tax question of all for New York City.

### Personal Income Tax

New York City might impose a personal income tax of its own, not linked at all with either the State or Federal

income taxes. The taxpayer would have to file three sets of returns, and would be subject to audit by three sets of tax officials.

Instead, the City might impose the tax simply as a percentage of the State personal income tax, or as a rate levied on the net income shown in the taxpayer's State return.

A third possibility is to impose the tax as a percentage of the Federal income tax, or as a rate levied on the net income shown in the taxpayer's Federal return.

Under the first option, the City has complete freedom in defining taxable income, setting the personal exemptions and allowances for dependents, and in setting the kind of rate scale that it wishes. Linkage with the State tax is



not so good on this point, especially since the State personal exemption is so high (\$1,000, single person; \$2,500, married couple) that the yield to be obtained from the tax would be seriously impaired. Linkage with the Federal tax would be better, on this one point, since the Federal exemption is a straight per capita one of \$600. The State allowance for a dependent, on the other hand, is too low: only \$400.

As to definition of taxable income, if the tax were linked to the State tax return, the City would have to require the taxpayer to make at least one or two adjustments to his net income as reported for that return. The most important item is deduction of real estate tax paid by the taxpayer, which New York State allows, in computing net taxable income. If New York City imposes an income tax, it certainly should not allow the real estate tax as a deduction; a large part of the additional revenue would be lost, and favoritism would be shown to a particular group of income taxpayer (tenants would not directly benefit).

New York State's allowance of a deduction, up to \$150, of premiums paid on life insurance helps only those savers who are in good enough health and young enough to get an insurance policy; others, who must accumulate savings deposits, and so on, help carry the extra load removed from the insured. This deduction, too, should be disallowed by a City tax.

Interest on certain government bonds now exempt under the State income tax is, we believe, unjustified, and should not be allowed under a City tax.

If the Federal, rather than State, taxable income is used as a base for the City tax, it must be modified not only with respect to real estate tax deduc-

tions and certain bond interest exemptions, but also because it allows deduction, in computing net income, of income taxes paid to states and localities. The City should not, of course, allow deductions of its own income tax.

With respect to administration of a personal income tax, the City could be more certain of achieving the standard it desired if it levied its own tax—but not until substantial improvement was made in present techniques of and attitude toward tax administration. Linkage with the State tax would have the great advantage of making use of a going tax administration, one, moreover, that would have a direct interest in aiding to enforce the City tax, since the health of the State's own finances would depend largely on the success of the City with its income tax. But the State income tax has not yet been put on a pay-as-you-go basis (the tax is not withheld from salaries and wages) and there is a lag of a year between the receipt of income and the payment of tax. These disadvantages could be avoided by linkage with the Federal tax. But the Federal government could not be expected to assist the City in the enforcement of the tax—auditing the taxpayer, and so on.

Some municipalities in the United States impose personal income taxes, but all of them except the District of Columbia (usually for state constitutional reasons) exclude dividends, interest, and other investment income from the tax base. Moreover, most of them allow no personal exemption or allowance for dependents. The resulting distribution of the tax burden seems to us so unfair, even when consideration is taken of other biases in the tax system, that we cannot recommend such a tax for New York City.



The most notable example of such a tax is that of Philadelphia, which imposes  $1\frac{1}{4}$  percent on wages and salaries and earnings of unincorporated business, without personal exemptions or allowances for dependents. Enforcement is by withholding so far as possible. The tax contributes a substantial proportion of the city's revenues. Other cities imposing an income tax are Scranton, Toledo, Springfield (Ohio), Warren (Ohio), Louisville, Washington, and (formerly) St. Louis.

To the City income taxpayer who would also be subject to the Federal income tax, the true net additional burden imposed on him by the City tax might be appreciably less — in some cases greatly less—than the amount of tax he would pay to the City. This is because the Federal income tax law allows the taxpayer to deduct, in computing net taxable income, any income tax he pays to a state or municipality.

For example, in the extreme case of a single person with a surtax net income of slightly more than \$200,000, a \$100 tax paid to New York City would be for him an additional burden of only \$9; by deducting the City tax, he would lower his Federal tax by \$91, since he is subject to a marginal Federal rate of 91 percent.

There is another side to it, however. Many Federal taxpayers, instead of itemizing their deductions, use the flat standard deduction of 10 percent of adjusted gross income (limit, \$1,000 or \$500). For them, the introduction of a City tax would not mean an additional item of deduction; hence the City tax would be a net additional burden in its entirety. In recent years, the great majority of Federal taxpayers have used the standard deduction. The pref-

erence is greatest in the low-income groups. In general, the deductibility feature of a City tax would not be important for those taxpayers with incomes below about \$5,000.

For those above this level, the implications of deductibility under the Federal tax, in view of the high Federal rates, are two-fold:

(1) The threat of migration from the City, the claim of intolerable additional taxation, and other similar objections that might be raised against a City tax by those of higher incomes would have to be taken with a good deal of reserve.

(2) (And this is the other side of the coin), the City cannot hope, even if it wanted, to impose a notably progressive net additional tax burden through an income tax. Indeed, at the higher ranges, the net additional burden (but not the tax paid to the City) would become regressive, that is, be a smaller percent of income the larger the income. For example, a single person with \$210,000 of surtax net income, upon being subjected to a 3 percent City income tax, would find that his net additional tax was only \$567. He would pay New York City \$6,300, but his Federal tax would simultaneously decrease by \$5,733.

Thus, from the viewpoint of distributing the tax burden, the income tax for New York City, given the present Federal tax, turns out to be no vast improvement over the sales tax or the property tax, though on balance it does weigh less on the very poor and on those with large families. If a personal income tax is imposed, we recommend that it carry a progressive, not merely a proportional, tax rate.

### **Unincorporated Business Income Tax**

A comprehensive personal income tax would reach the profits of sole proprie-



torships and partnerships; the owners would be required to include in their returns their shares of the profits of these enterprises.

We therefore do not recommend a special additional income tax on the profits of unincorporated enterprises; but we believe that, if the general business tax can be eliminated in no other way, it would be preferable to substitute such an income tax, provided it would be part of a general income tax system.

## MISCELLANEOUS EXCISES; TAX ADMINISTRATION AND RESEARCH

The City obtains some \$30 million a year from a number of miscellaneous excises: \$11 million from a tax on pari-mutuel racing pools; \$10 million from taxes on utilities and conduit companies; \$5 million from a hotel-room tax; and very small amounts from a tax on gross premiums on insurance written by out-of-State fire insurance companies, and an occupancy tax.

The tax on pari-mutuel racing pools is destined, by State law, to disappear gradually, reaching a zero rate in 1956. We do not oppose this repeal, since in general it seems unwise to give the City a financial stake in gambling. The other taxes are relatively unobjectionable, and the hotel-room tax, applying as it does only to transients, provides a means of requiring visitors to pay part of the cost they cause for police protection and other services. The occupancy tax, linked by State law with housing subsidies, is tolerable only because it is so tiny. The insurance tax fits well into the entire State and local system, but it should not be collected by the Fire Department, as is now the case, nor

### Corporation Income Tax

Whether a City income tax should include corporations is a complex problem. On balance, and largely because much profit earned in New York City but flowing to nonresident stock holders would otherwise never be captured, we recommend that if an income tax system is enacted, it include a low-rate tax, perhaps 2 or 3 percent, on corporate income arising within New York City. As with the personal income tax, the City tax would be deductible in computing the base for the Federal tax.

should it be allocated, as it is, to firemen's pension funds and the State volunteer firemen's home.

The State has authorized the City to impose an annual tax on motor vehicles, an admissions tax, a liquor license tax, and a tax on coin-operated amusement devices. None of these taxes seems especially suitable for New York City at the present time. The motor vehicles tax (\$5 or \$10 a year) cannot apply to nonresidents; hence commuters would be exempt. A better way to ask motorists to pay for a share of maintaining the City streets would be through part of the State motor fuel tax. The admissions tax is bound to be somewhat discriminatory in view of competing tax-free means of entertainment, such as television. There is perhaps a somewhat better case for the liquor license tax.\* The City would get not much more than \$20 million a year from all three taxes combined, at the maximum rates authorized.

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\*As this is being written, the City is about to impose taxes on motor vehicles and on liquor licenses.



In 1951, City authorities proposed that the City be given power to duplicate the State stock transfer tax (collection to be by the State), and to put a tax of not more than 2 cents on each check. The stock transfer tax might yield around \$20 million, if it did not cause trade on the New York Exchanges to decline very much; the check tax might yield about \$6 million, according to its proponents. We are opposed to both taxes. The stock transfer tax would further cut up the national market in stocks into several smaller markets, by tempting trade to go elsewhere. The check tax would discourage the use of a highly convenient means of transferring money, and might also prove very difficult to administer. The Federal government imposed a 2-cent tax on checks in 1932, but allowed it to expire at the end of 1934.

A cigarette tax has been discussed.\* We recommend instead that cigarettes be brought under the 3 percent City sales tax. We believe that the assessment and collection of all the City taxes, including the real estate tax, should be brought under one tax department, headed by a Commissioner of Revenue of New York City.

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\*It is now about to be enacted.

Equally important is the establishment of a modern tax research bureau within the City's tax administration. It would gather statistics and other types of information to assist the Mayor, other chief officials, the Board of Estimate, and the City Council in formulating and explaining a tax program. It would also gather information helpful to the administrators. The Federal government and many states (including New York State) lean heavily on well-staffed tax research bureaus. New York City's problems are too large and too complex to be solved without the aid of expert technical advice. For example, sampling theory, a branch of mathematical statistics, has been used elsewhere in the United States in devising administrative techniques, but its use is unknown in New York City's tax administration.

The skilled personnel available in this field of tax research is, however, quite limited, and New York City must be prepared to offer adequate salaries and to waive the Lyons Law, requiring residence in the City, if it is to staff a bureau of the type here contemplated. A bureau composed of mediocre talent would be almost worse than none at all.

## NONTAX REVENUES AND SPECIAL ASSESSMENTS

New York City collects about \$50 million a year from nontax revenues other than special assessments. These include charges for services (including court costs), fines and forfeits, licenses and permits, rents and royalties, and surplus of the water system. We make no recommendations on these revenue sources, since they are usually only subsidiary aspects of broader policy

matters that are under study by other projects of the Mayor's Committee on Management Survey.

When the City spends money on improvements that enhance the values of nearby privately owned real estate, it has a case for asking the owners of such real estate to contribute part of the cost—not, of course, in excess of the increased value, and usually far short



of it. This device of the special assessment ("local area assessment") brought in over \$20 million a year in the 1920's, but is now being used very sparingly, and produces only some \$4 million a year. Many of the improvements are now being financed by simple additions to the Borough-wide real estate tax rate, regardless of the particular area within the Borough that is benefited. Others are financed by City-wide rate additions, similar in all economic respects to an increase in the regular real estate tax rate. These Borough-wide and City-wide "assessments," as they are called, are not true special assessments at all.

The use of true special assessments has declined, partly because devices such as tolls, the motor fuel tax, and sewer rentals have proved suitable means for charging the cost to the special beneficiary, and partly because

promoters of housing developments have themselves in many instances installed the improvements in question. But less defensible motives have played a part: undue emphasis on the difficulties of collection that were peculiar to the great depression of the 1930's and, particularly, a willingness to bow before attacks on special assessments made by the individuals or groups who were directly affected. Politically, it is much easier to throw the charge into the general hopper of Borough-wide or City-wide "assessments."

We recommend that increased use be made of the local-area assessment, so that within a few years the City may be getting some \$30 million annually from this source, with corresponding reductions in the general real estate tax rate, both within and without the 2 percent constitutional limit.

## PUBLIC SERVICE ENTERPRISE REVENUES

New York City operates one very large business enterprise, the transit system, with operating revenues of over \$200 million a year; one medium-sized enterprise, the water system, with revenues of nearly \$50 million; and two minor ones, docks (\$10 million operating revenue) and ferries (\$2 million). The City also leases airports to the Port of New York Authority.

Only the water system ordinarily shows a surplus of revenues over operating expenses and debt service: about \$5 million a year. The docks show an operating surplus, but debt service attributable to the docks is so heavy that the net result is a deficit of about \$2 million. The ferries show an operating deficit, partly because some of them are institutional ferries on which

no fare is charged; when debt service is added, the deficit is about \$5 million a year. The airport rents fall short of meeting the airport debt service by about \$2 million. In a total budget the size of New York City's, the combined net result of these four enterprises is not a significant item; but the fifth enterprise, transit, incurs a deficit that is a substantial burden on the City budget. In 1950 the transit system about broke even on operating revenues and expenses, but debt service was nearly \$70 million. And in the coming year (1952-53), the transit system will incur an operating deficit of more than \$50 million.

The figures given above are mostly the result of special computations made by the finance project or the Bureau



of the Census. Except for the transit system, New York City does not keep separate accounts for its enterprises. It is impossible for the citizen to ascertain, from the City accounts as published, whether the docks, ferries, or water system are operating at a surplus or deficit. We recommend that henceforth the City set up separate accounts for each kind of enterprise that will supply this information. Moreover, the internal accounting needs to be revised for this purpose, so that the enterprises will be chargeable, as they now are not, for certain expenses rendered on their behalf by other departments, and so that the reverse flow of services may likewise be taken into account.

We also recommend that consideration be given to raising the present 5-cent fare on the Staten Island ferry, which accounts for a major part of the total ferry deficit.

### **The Transit System\***

The operating deficit of the system for the year ending June 30, 1952, will apparently be about \$24 million exclusive of transit-worker pension costs that are paid from the general-fund revenue. If the pension costs are included, as they should be from an economic viewpoint, the operating deficit for 1951-52 rises to approximately \$35 million. Moreover, for the year ending June 30, 1953, the operating deficit is estimated at \$54 million, excluding pension costs, or nearly \$68 million including pension costs.

In addition, there is the debt service on bonds floated to construct or buy the subways and elevated systems and other facilities, which in interest and debt retirement is running between

\$70 and \$80 million a year. Hence, the transit system is a drain on the City's revenues to the extent of over \$100 million a year as this is written, and will be a drain next year of not far from \$150 million if fares are not raised. Since the City's revenue sources are fairly limited, this drain means, to a substantial degree, that other City services—police, fire, schools, and so on—are being given smaller sums to work with than would otherwise be the case. To be sure, if there were no transit deficit, there would be some reduction in taxes, too, but there remains little doubt that a large transit deficit forces a lower standard of City services in other fields.

If inflation should continue to increase costs, the operating deficit alone could all too easily reach \$100 million a year. Finally, these figures do not, of course, take into account the future operating expenses and debt service that will come into being when the half-billion-dollar Second Avenue subway and other proposed projects are completed.

At first glance, it might be thought that (political considerations aside) the problem is easily solved: just raise the 10-cent fare to whatever level is needed. A 15-cent fare, for instance, would produce not less than \$50 million more in added revenue.

A simple increase in the flat-rate fare, however, has this grave economic disadvantage: it forces riders off the subway, especially at times when there is ample accommodation for them. The nonrush-hour riders and the riders who go in a counter-rush direction during rush hours occupy subway trains in which there are often empty seats and almost always plenty of standing room. If, for example, 10 or 20 percent of

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\*ED. NOTE: All statistics in the section were compiled before the abolition of combined fares as of July 1, 1952. See Volume I, Chapter VII.



those riders are forced off the system by a rise in fare, the system is not thereby enabled to cut its operating costs appreciably. Conversely, if more riders could be induced to use the subway at those hours and in those directions, they could be accommodated with little or no increase in total operating costs. To do anything that will drive such riders off the system is simply to waste still further the expensive tunnels and trains that are already at hand. The waste of nonutilization or underutilization is not the less important just because it may not happen to attract the same attention as other kinds of waste.

Rush-hour travel is another matter entirely. Additional riders at rush hours in rush directions can cause great increase in cost if they force the construction of a whole new subway line to relieve the pressure, or even if they merely force the running of extra trains, where that is physically possible. And if, under a higher fare, this kind of traffic diminishes, the result is certainly much better service for those that remain; and if the falling off in rush-hour traffic is great enough, there is also a substantial saving in operating costs.

A flat rise to 15 cents would notably decrease nonrush-hour traffic, and decrease rush-hour traffic somewhat less, if we are to judge by what happened when the fare went from 5 cents to 10 cents in 1948. The net result would be still further waste of subway facilities during the nonrush-hours, and not much relief in rush hours. Moreover, the falling-off in nonrush traffic (which still accounts for the majority of rides on the subway) might be so great that, no matter how high the flat fare was raised, the system could never cover

the operating deficit, to say nothing of debt service.

The answer, in principle, is to charge different fares at different times and for different distances. The time variation in fare would be like the time variation in moving picture admissions; more is charged in the evening, when the theater tends to be crowded, and less in the early daytime, when the theater tends to be empty, thereby making for waste. Electric power companies often charge their industrial users more when they take power during the peak-load times. Airlines and steamships sometimes charge less for off-season travel. As for distance, it is obvious that there is little to be said for a system that charges the same for a trip from Van Cortlandt Park to Coney Island as for a trip from Times Square to Pennsylvania Station.

The London subway charges more the longer the ride, but it does so by utilizing ticket-takers at all the exits. This is too expensive a use of manpower to be feasible for New York City; the subway would go still further in the red. One of our staff members has devised a mechanical system of allowing the fare to vary with distance and time ("zone-time system") which in our opinion is quite workable, though it would require the subway riders to learn new habits. Upon entering the subway, the rider would deposit a 25-cent piece in the turnstile, which would give him a notched slug. At his destination, he would deposit the notched slug in an exit turnstile; inside this turnstile a mechanism, connected with a timing system, would sense, from the notches in the slug, what station the rider had come from and, combining the distance and time element, it would then dispense the proper amount of



change. In the busier stations, a number of additional exit turnstiles would need to be installed.

We propose that under this zone-time system the maximum fare be 25 cents, for very long nonrush rides or for moderately long rush rides; and that the nickel fare be brought back for all short rides (even in rush hours). Intermediate fares would be charged for in-between times and distances. We estimate that under this system, one-fifth of all rides would cost only 5 cents, and another one-third only 10 cents. The average fare would be about 12½ cents. The system would yield about \$40 million extra revenue a year. And it would allow a much greater use of the subway system than would a flat 15-cent fare, which would yield only a little more revenue, but at the cost of driving a large number of riders off the system during nonrush periods and in nonrush directions.

The \$40 million extra yield a year would not cover the operating deficit,

but it would go about as far in that direction as seems feasible, unless the subway system is to be largely wasted.

The low fare in off hours would particularly benefit those with extremely low incomes—charwomen, night watchmen, and others with irregular hours. Moreover, the typical family at a slightly higher income level might gain, as a family, when it is considered that the wife, as shopper, and the whole family on their week-end trips to the beach (for example) may get lower rates than under a higher flat fare. Any discussion of the burden imposed on anyone by the plan suggested here must not compare it with the 10-cent fare, but with the higher fare that would be necessary to raise about the same added revenue.

As a stop-gap, until the changeover to the zone-time system is made, we recommend that the flat fare be increased to 12.5 cents (two tokens for a quarter) to yield about \$28 million a year added revenue.

## STATE AND FEDERAL GRANTS TO NEW YORK CITY

New York City is at present receiving about one-fourth of its total revenue as grants from the State and Federal governments. Most of this \$300 million a year (about 80 percent of it) comes from the State.

The welfare grant is the largest. The State stands 80 percent of the cost of home relief and, with the assistance of the Federal government, a like proportion of the aid to the aged, blind, dependent children, and disabled. The welfare grants account for about half the total revenue from grants.

The grant for education is the next largest, accounting for nearly one-third

of the total. The third big grant is the block grant of \$6.75 per capita; the City may use this grant for whatever it wishes (the money goes into the general fund and, like tax revenue, supports City expenditures in general).

In a period of depression, when home relief costs would rise, the welfare grant would be even larger.

### Comparison of Taxes Paid with Grants Received

New York State takes from New York City residents a great deal more in taxes than it gives in grants to New York City, but this is natural enough



since the State must raise revenue, not only for the grants it gives, but also to finance the services it renders directly. There remains, however, a question of whether the State in some sense discriminates against New York City in the grant system. Some have said that it does discriminate, because New York City's percentage share of the total State grants is smaller than New York City's percentage contribution to the State tax revenue. In 1951, New York City received about 49 percent of the total grants made by the State. We estimate that in the same year the residents and corporations of New York City paid 60 percent of the total tax revenue received by the State.

However, we do not conclude from these figures that the grant system discriminates against New York City. The State grants were set up, not to achieve any such mathematical balance for every community in the State, but (1) to stimulate and guide certain locally administered activities; (2) to guarantee a minimum standard of certain services in even the poorest communities; and (3) to relieve the poorer communities of crushing tax rates they would have to impose to support even a minimum level of government services if left to their own resources. The more well-to-do local units, and those with smaller needs (for instance, fewer children to educate, per adult), should expect to get a smaller proportion of the total grants than the proportion of State taxes they pay. New York City is one of those communities; there is nothing in the percentages of 49 and 60 that proves the system unfair to the City.

Moreover, even those who claim that the percentages do show discrimination must be wary what change they advo-

cate. If they simply urge a larger State grant for everyone all over the State, the new taxes that the State will have to impose to finance the additional grant will come largely out of the pockets of New York City individuals and corporations. The City government will have an easier financial time of it, but the City resident will be worse off than before.

Finally, there is room for considerable argument as to what proportion of total State tax revenue does come from New York City.

The only sound way to ascertain whether the State should pay the City more in grants is to examine each type of grant in turn, asking whether, in view of the purposes of the grant, the amount given to the City is as large as it should be. Such an examination leads us to conclude that there is no case at this time for an increase in the \$6.75 per capita grant. Likewise, though on this point there may be more doubt, we see no clear case for an increase now in the grant of funds for elementary and secondary education.

Under the welfare grant, the chief problem is whether the State should cover as much as 80 percent of the cost when the direct administration of the activity and the direct spending of the money are in the hands of the City. This in turn involves administrative questions that are the subject for a special study for the Management Survey Committee, and are beyond the scope of our project. Perhaps the ultimate solution will be for the State to administer this function directly and cover all the cost itself, but we do not make any recommendation on that point at the present time.

In two fields, however, we believe there is a strong case for additional



State aid. First, the State should give New York City, and all other cities and villages, money from the motor fuel tax to help them build and maintain their streets and highways. Second, the State should take over the cost of operating the City institutions of higher learning.

Motorists should pay, through the motor fuel tax or other suitable charge, for part of the cost of constructing and maintaining the streets and highways they use. In New York City, this principle is doubly violated. Motorists as such have been paying no special tax to help finance the City streets. They have been paying a special tax—the State motor fuel tax—that goes to build and maintain highways outside the City. In principle, the way to remove this discrepancy would be to lower the State motor fuel tax in New York City by 3 cents a gallon, from 4 cents to 1 cent, and to impose a City tax of 3 cents a gallon. This would yield about \$25 million a year, which is still less than the \$55 million to \$60 million that the City has been spending on its streets each year. A similar charge would apply to other cities and villages. This plan, however, would encounter certain ad-

ministrative difficulties. As a substitute, therefore, which would accomplish about the same thing, we recommend that the State distribute to New York City and to all other cities and villages the proceeds of 2 cents of the tax on motor fuel. This would be about \$50 million a year. If this grant were distributed on the basis of motor vehicle registration and population, the result would approximate that aimed at in the first plan noted above. We do not necessarily recommend that the State get the \$50 million by raising its motor fuel tax; the money to fill the gap in the State's finances might properly come from any tax.

As for higher education, New York City residents are discriminated against in that, as taxpayers, they help support Upstate institutions financed by the State, and also pay taxes to support the colleges operated by the City. The operating expense budget of the City colleges for 1952 is \$20 million. This is financed in part by a State grant of \$4.5 million for teacher training, but there remains, after miscellaneous income, a burden of \$14 million on City taxpayers (1951-52 budget figures). We recommend that this cost be met by the State.

## STANDARDS FOR CHOICE AMONG REVENUE MEASURES

Among the many standards that have been set up from time to time for judging a tax system, we select seven as being especially significant for any New York City tax.

First, the City tax system must seem reasonably fair to the community; it must at least avoid gross discrimination. This is a vague standard, but none the less real.

Second, special beneficiaries of City services may be asked to pay special charges. The City renders many services specifically directed to particular individuals, often at their request and benefiting them more than others. In such cases, the benefited individuals should be asked to pay special charges or taxes. Highway users, for instance, may be asked to pay special taxes like



the motor fuel tax; those who benefit from local improvements may be asked to pay special assessments.

Third, the tax system should not restrict total production to any marked extent or induce business to be done in inefficient ways.

Fourth, intelligent tax consciousness should be stimulated, but not to the point of provoking an unreasoning degree of tax irritation.

Fifth, the City needs a stable revenue; its tax system (in contrast to a national tax system) needs to be fairly impervious to the swings of the business cycle. During inflation, to be sure, it may wish it had a responsive, sensitive tax system, but the cost would be too great, in terms of budgetary stringency during a downturn, when revenues would shrink while some expenses, notably those for home relief, rose. (If the City could devise and operate a system of reserves, piling up in good times the money to tide it over recessions, a cyclically sensitive tax system would be better than a stable one, but such a system would be difficult to operate under the usual political pressures.)

Sixth, the tax must be administratively feasible; evasion must be prevented at a cost that is not excessive.

Seventh, the tax system should promote amity in intergovernmental relations.

### **Application of Standards to Major Taxes**

Since the practical point at issue is how to raise a certain amount of additional revenue, we apply the test above to a supposed increment in each of the major taxes (for the income tax, since it is not in existence as a City tax, we consider the entire tax).

**Property Tax**—An increase of about  $\frac{1}{2}$  of 1 percent to 1 percent in the real estate tax would rank high under the tests of special benefit (the second test above) and administrative feasibility. City services are to some degree reflected in enhanced real estate values, as the City thereby becomes a more desirable place to live and work in. The third (economic) test is met by that part of the real estate tax that rests on land. The real estate tax is also very stable. But in terms of general equity the real estate tax does not rank high; it is not well adapted to differences in total economic power of individuals.

**Sales Tax**—An increase to 4 or 5 percent in the sales tax rate does not rank very high on any of the tests, except tax consciousness, but neither is it very low on most of them. With food and dwelling rental exempt, the sales tax is not markedly regressive by income classes; but neither is it progressive. It discriminates against large families. The effect on volume of business of a substantial rate increase is difficult to foresee; although there would be some diversion of trade, the main effect would probably be felt in lowered profit margins and, ultimately, in lower rents for commercial sites in the City. The sales tax is fairly sensitive to changes in business conditions. Administration is still a problem, but not enough of a one to bar the tax when considering rate increases for more revenue.

**General Business and Financial Tax**—At present, much of this tax may be coming out of profit margins, or out of the Federal income tax, owing to the deductibility feature. At substantially higher rates, however, much of it would have to be shifted to consumers. Since food is not exempt, the tax would be especially hard on the lower-income



classes and large families, and the part that did remain as a burden on profits would be distributed haphazardly. The tax thus ranks very low under the test of general equity. Its tendency to encourage vertical integration has been noted above. The tax also ranks low in terms of tax consciousness, sensitivity to business conditions, and administrative feasibility.

**Personal Income Tax**—The income tax ranks high in general equity, and in promoting intelligent tax consciousness. Initially, it would cause special problems in administration, unless linked with the State tax. It is relatively unstable over the business cycle. And it ranks lower than the other taxes above in terms of avoiding impairment of intergovernmental relations; the fact that the State and Federal governments already use the tax raises a problem not encountered with the other taxes.

**Rapid Transit Fare** — Although the transit fare is not technically a tax, it has enough of a tax element in it to warrant consideration here. As a tax, it has almost no merits except those of administrative feasibility and a ten-

dency to resist change in business conditions.

**Conclusion**—As might have been anticipated, no one revenue measure emerges from the testing process far superior to the others. The general business and financial tax makes the poorest showing. The real estate tax should remain the major source of revenue, and can be asked to contribute more than it now does. In between, in our scale of values, is the sales tax.

The personal income tax is difficult to rank with the others. In many ways it is by far the best tax, but the City has had no experience with it. If some system of reserves could be set up whereby the large yields of good times could be carried over the present financial difficulty in depression, there would be a much stronger case for the tax. We are sure that such a reserve system can be devised, from a technical viewpoint, but we are not sure that it could withstand political pressures.

In the next section, where we submit our specific recommendations for raising more revenue, our subjective weighing of the pros and cons will emerge indirectly.

## A REVENUE PROGRAM FOR NEW YORK CITY

Having estimated a range of City expenditures and receipts from the existing revenue system over the next few years, having surveyed each of the existing tax and nontax revenue sources and a potential income tax, we proceed to state specifically a revenue program to meet the projected revenue deficiencies. Efficiencies achieved through adopting recommendations of other Reports in the Management Survey will narrow expenditure-revenue gaps to some extent; if so, the reader will be

able to infer, from our remarks below, what sections of the proposed revenue program might be dispensed with.

In view of the preceding analysis, the present summary will merely list the measures we recommend, without attempting to justify them in detail.

### Revenue Measures Deemed Desirable in Any Event

Even if the City did not need additional revenue, we believe there would



be a case for the first group of revenue measures listed below; some less desirable existing source, like the general business tax, could then be reduced or repealed. In fact, however, all the money will almost surely be needed to meet rising expenditures.

This first group of measures is as follows (all years are fiscal years ending with the year stated):

(1) An increase in assessments to full value on one- and two-family dwellings, on new construction, and on certain utility property. Yield: \$6 million in 1953 (if action has been taken by assessors in making assessments for the tax year 1952-53), and \$25 million by 1956.

(2) Greater use of special assessments. Yield: \$3 million in 1953 and \$15 million by 1955.

(3) Inclusion of cigarettes and beer in the sales tax base. Beer is not enough of a food to deserve an exemption, and the fact that cigarettes are specially taxed by other jurisdictions is no reason for the City to undo part of that action by granting them exemption under the sales tax. Yield: \$15 million.

(4) Increase in rate of hotel-room tax to 10 percent. This is a proper means of asking transients to share a small part of the cost of governing New York City. Yield: \$5 million.

(5) Strengthening of excise tax auditing staff, and certain other improvements in excise tax administration. Yield: \$10 million for 1953 and 1954, and \$15 million thereafter.

The five measures listed above would yield \$39 million in 1953, \$52 million in 1954, \$68 million in 1955, and \$75 million in 1956.

(6) Introduction of a monthly charge for permission to park overnight in certain areas of the City, and extension of use of parking meters. Yield, net: \$15 million.

(7) Increased license charges and fees; for recommendation on this

source of revenue, see Chapter VII, Section 1, of this volume.

(8) Distribution by the State to New York City (and to all other cities and villages) of the proceeds of 2 cents of the motor fuel tax, for purposes of street construction and maintenance, on a combined basis of registration and population. Yield: \$25 million.

(9) Assumption by the State of the operating costs of the City colleges in New York City. Benefit to the City: \$14 million (estimated on basis of 1952-53 budget).

Altogether, the nine measures advocated above would yield \$93 million in 1953, \$106 million in 1954, \$122 million in 1955, and \$129 million in 1956. The yield would be somewhat more if inflation is assumed; less, in 1956, under deflation. Assuming however, a stable price level and full employment, we find that a large part of the 1953 gap would still not be met, but that in later years these measures might yield a surplus. In that happy event, reduction of some of the other City taxes would be in order. Under inflation expenditures rise faster than revenues, and these new measures leave a larger and larger amount of the gap uncovered: \$165 million by 1956. And under heavy unemployment the uncovered gap, even with these new measures, mounts to \$258 million in 1956.

Consequently, it seems likely that still other sources of revenue must be found.

### **Additional Measures**

For reasons already given, we recommend that the subway fare be advanced at once to a flat 12.5 cents (two tokens for a quarter), and that as soon thereafter as possible the City introduce a zone-time fare structure, with fares ranging from 5 cents (for about one-fifth of the rides) to 25 cents (for about one-tenth of the rides). Yield:



\$28 million from the 12.5 cent fare; from the zone-time schedule, \$40 million.

Still further revenue will be needed, except under the most optimistic projections, and for this we recommend an increase in the real estate tax rate. Some increase will occur anyway, outside the 2 percent limit, to meet the gradually increasing debt service that is implied by the capital budget and capital program; and we contemplate the possibility that, in addition, the general-purpose rate may have to rise by from .3 to .5 of 1 percent.

Finally, under inflation, and before the change in the 2 percent constitutional limitation on the real estate tax rate can take effect, the sales tax rate could be raised for two years to 3½ percent, then reduced to 3 percent.

These recommendations still do not cover the enormous gap that develops

under the very pessimistic projection regarding depression. We may expect that no depression so severe will occur; but if it does, the City will probably have to call on the Federal government for financial aid.

### **An Income Tax**

The omission of an income tax from the measures recommended above does not imply that it is clearly unsuited to New York City. Indeed, rather than strain the existing taxes further than in the program above, we should prefer to see the City impose an income tax; and if any substantial part of the program above is rejected, we think an income tax then becomes desirable and perhaps inevitable. But it should be possible for the City to get through the next few years without an income tax, if it wishes to do so.

## **THE BUDGET AND ITS ADMINISTRATION**

### **Expense Budget**

Departmental estimates of expenses for the coming year reach the Budget Director by February 1, and he puts together an approximation of the executive budget which the Mayor, after reviewing, presents by April 1 to the Board of Estimate. The Board has until April 27 to act, and the Council until May 21. The budget as adopted by the Board of Estimate is known as the "expense budget." The Board has extensive powers of revision; but the Council is limited to reducing (never increasing) certain types of expenditure, and even this action may be vetoed by the Mayor (a three-fourths vote of the Council is required to override the veto).

The expense budget is a "line-item" budget, introduced as a reform a half-century ago to make certain that everyone could know just what was bought with the money spent. The headings in the budget thus classify expenditures, not by purpose or by program, but by object—personal service, supplies, materials, and so on. And the lines themselves give the same kind of information (but sometimes not even that), namely, how many stenographers of what grade, how many typewriters of what cost, and so on.

As thus itemized, the budget gives no outsider, or even the Mayor and the Board of Estimate, a basis for judging whether a particular bureau is overstaffed or understaffed since the job—



the number and kinds of units of service the particular bureau is supposed to do—is not specified.

But even the descriptions of what is being bought are not always accurate. Many persons listed as cleaners and sweepers in the Department of Sanitation, for example, are doing the work of clerks, auto mechanics, and so on. Men doing supervisory work are left for long periods in lines specifying subordinate positions in order to save money on salaries. Even when men are not working “out of title,” the Civil Service descriptions are often meaningless; some of the “clerks” in the Budget Bureau itself are in fact highly skilled examiners.

A further defect in the present budget document, as concerns its ability to tell the reader whether any item or group of items is justified, is the fact that no figure of actual expenditure for a preceding year is given in the budget.

The lump sum allowances for appointments and promotions at less than appropriated rates, for leaves of absence, and for turnover lags in filling vacancies are labeled “salary accruals”; and these accruals result in aggregate actual budgeted expenditure being less than the product of the line rates times the number of positions—a further barrier to anyone but the budget experts understanding what the budget means.

The City Charter revision of 1936, improving the 1933 legislation, aimed to have (1) all expenses brought under formal budgeting controls; (2) operating expenses distinguished from capital outlays; and (3) operating expenses considered in the light of revenue estimates. These objectives have, in the main, been achieved.

As to the first aim, the transit system expenditures are not brought

within the usual budget controls, and of course the independent Triborough Bridge and Tunnel Authority and the City Housing Authority are likewise outside the budget. Miscellaneous revenues of some \$8 million fall outside the general fund. Special schedules, financed by budget notes, are used perhaps more than the demands of flexibility and emergency really necessitate.

As to the second aim, there are some capital outlays still in the expense budget, but they amount to less than 1 percent of that budget.

The third aim involves the difficult task of estimating revenues from the sales tax, general business tax, State and Federal grants, and other general fund receipts. During the post-war inflation, receipts were underestimated, naturally enough; the result was a cushion in the way of an unanticipated cash surplus. More recently, the estimates have been close to the final result.

The preparation of the budget really starts down in each department or agency when it responds to a request of the Budget Director, made about November or December, to submit estimates on forms designed by the Director. To the uninitiated, the forms do not seem designed to reveal in themselves very much about whether the requests are justified. In fact, all the stages of the formal steps of control in preparation of the budget are probably of little significance alongside the more or less constant supervision of each department or agency exercised by the many budget examiners operating out of the Budget Director's Office.

The City budget, once enacted, becomes the legal basis and administrative instrument for a set of highly detailed, centralized expenditure controls, operated through an elaborate paper-



work procedure by the Budget Director and his staff. Regardless of what the budget appropriates, action by any agency with respect to such things as vacancies, accruals, schedule modifications, equipment purchases, and contract advertisements usually requires specific prior approval from the Director. Some 6,000 modifications and transfers of budget lines are approved one by one by the Budget Bureau each year, and then presented for approval by the Board of Estimate.

The Budget Bureau, through its control over vacancies and equipment purchases, accumulates funds for contingencies not provided for in the budget; indeed, control over filling of vacancies is necessary if the Bureau is to realize the goals of accruals that are set, as noted above.

Clearly, the power held by the Budget Bureau to deny or fix the terms of appointments, equipment purchases, and budget modifications and transfers gives the Bureau a strong voice in certain types of departmental decision—a proposed reorganization of a department, for instance. But since the Bureau cannot possibly keep track of everything, inconsistencies develop, as when the Welfare Department recently found it had paid half a year's rent for space for a new branch station, but could not open the facility because it could not get a certificate from the Budget Bureau for installation of telephones.

There is thus a division of responsibility between the Budget Bureau and the operating departments, drawn along a fortuitous, arbitrary line, namely, whether there is a vacancy to be filled, a piece of equipment to be purchased, a contract to be let. The Budget Bureau's resources are taxed, its energies ineffectively exhausted, trying to cope

with a mass of individual decisions, although another, larger set of decisions go by without its supervision. But in all decisions, the sometimes conflicting goals of economy, performance, and employee welfare should be weighed. This weighing can be done in the department, case by case. But it will not be sufficiently weighed on the economy side unless the Budget Bureau's influence is felt. The way to make it be felt is by adopting a performance type of budget in place of the present line items. This means the grant of lump sums to agencies for their approved programs and projects, coupled with statistical measures and reports of accomplishment so devised as to enable the Bureau's current review to give effect to its own proper responsibilities.

### Capital Budget

Each year the City Planning Commission, after receiving estimates from departments and agencies, adopts a capital "budget" for the coming calendar year, and the Board of Estimate adopts, or within limits modifies, this budget. But this plan is not really a budget; the voting of it does not carry any appropriations for expenditure. Those come later; perhaps in a later year, upon request of the departments concerned, or perhaps never. Experience shows that the capital budget for any one year is not much of a guide to what the actual appropriations for capital outlay in that year will in fact be. But the capital budget is a great improvement over the former procedure where there was no occasion at all for weighing one capital improvement against another by a body that has a view of the whole.

At the same time, a capital "program" for the succeeding five years is adopted. When the capital expenditures are



made, they are financed by borrowing. In recent years the capital budget has ranged roughly between \$200 million and \$400 million a year.

Capital expenditures affect future expense budgets by the interest and amortization charges on the debt financing them, and by the expenses of operating the capital facilities after they are built. This effect might perhaps be better taken into account if the capital budget were put on a fiscal year basis, and thus tied into the current expense budget more directly.

### **Recommendations on Budgetary Procedure**

(1) We recommend the adoption of a program type of budget in place of the line-item budget. Under any major City function and under each of the agencies performing it, there would be listed the major programs and the allowance of lump sums to the agency for each program. New budgeting procedures would include schedules of work to be performed, estimates based on statistical experience of man-days and machine output required, and analyses of unit costs.

(2) The accounting for municipal enterprises should be reorganized to give a correct and ready view of the financial status of each enterprise.

(3) Under the program budget, a new set of budgetary controls and a reorganization of the central accounting system would be required.

(4) The program budget would also require decentralization of budgetary activities to strong managerial staffs in each agency or department. The Budget Bureau would consist of a smaller staff of high-level people not responsible for detailed supervision of departmental decisions. A council of departmental

budget officers, meeting frequently under Budget Bureau auspices, would exchange experience and promote improvement.

(5) The Budget Bureau should assume the continuing task of projecting estimates of expenditures for some years ahead, somewhat as was done in the present finance project. It should especially estimate the added load on future expense budgets that will be involved by adopting any large capital improvement. A striking example of an occasion for such a study is the projected Second Avenue subway. It will cost half a billion dollars, perhaps much more, and it has been voted with little idea anywhere, apparently, of the extent to which it will be self-liquidating, or how the additional deficit may be met.

### **The Legislature's Power over Expenditure**

A study of New York City's budget raises an issue which is somewhat broader than budgeting, but which affects that procedure profoundly. That issue is the extent to which the legislative body of the government should have power over the voting of expenditures and revenues.

New York City's Board of Estimate, although it exercises legislative functions, is composed entirely of men who are (with one exception) also important members of the executive branch of the government. The only purely legislative body is the Council, and the Council has practically no financial power. At the same time, the Council has no power to oust the executive (as it does in the national government of Great Britain, for example) on a vote of lack of confidence. The Council does not even have any power of post-audit.



There is no provision in the New York City framework for a check on the executive to see that it really did spend what it was authorized to spend—except a check by one of the executives himself.

It is beyond the scope of our Report to make a firm recommendation on whether the Council should be given more power over financial matters. But it must be recognized that the executive is held in check, practically speaking, only by the general checks on action by the City and by the possibility of being voted out of office after four years have passed. We urge at least consideration of the following measures: (1) give the Council power to transfer from one item or code to another; (2) provide it with an adequate research staff; (3) give it two months (not 20 days) to study the budget; (4) give it the privilege and duty of post-audit; (5) give it power to pass on all capital project appropriations; (6) allow it to override a Mayoralty veto by a two-thirds (not three-fourths) vote; and (7) require the executive to submit to the Council within a reasonable time after the close of the fiscal year a statement of the amounts actually spent and actually received during that year. At present, the Council is not even informed of what has happened.

### **Fiscal Independence for Education**

The Strayer-Yavner Report on the administrative management of schools proposes to grant the Board of Education fiscal independence. The proposal is based in part on dissatisfaction with the present system of budgetary controls, which are said to hinder the proper use of the total amount allowed for education. But the issues that the fiscal independence proposal raises are

much broader than budgeting procedure.

Under this proposal, the Board of Education would have allotted to it a part of the real estate tax and, subject to limits set in the enabling act, could raise the rate of its part of this tax when it judged more money was needed for education. Such earmarking renders the revenue system less flexible, and makes it more difficult to obtain an optimum combination of taxes. For example, it appears that a part of the real estate tax would be reserved for the future use of education, which in practice means that it could not be used for other purposes meanwhile.

Partly because the Board of Education would thus have direct taxing power, the proposal also calls for making the Board an elective body.

In this summary we cannot state all the complex issues involved, but our conclusion is that the proposal should not be accepted. We reach that conclusion primarily because the proposed system would make more difficult the already difficult task of apportioning the limited resources of the community among the rival claims. The claims of education for tax money would be separately considered by a body that would pass upon them without direct reference to, or comparison with, the claims of the other municipal activities.

Many of the aims set forth for this proposal can be met by other actions; for example, budgetary controls can be reformed along the lines suggested above. Moreover, some parts of the proposal seem to carry positive disadvantages even outside the field of taxing and expenditure: would an elected Board of Education, in a city the size of New York result in a quality of Board personnel equal to that now obtained



under the appointive method? There is good reason to doubt it. Nevertheless, we agree that the case for fiscal independence of education would become considerably stronger if no reform of budgetary practice is put through. In

any case, one's evaluation of the proposed fiscal independence for the elementary and secondary school system will rest primarily on which values, and which problems, weigh most heavily with him.

## NEW YORK CITY'S DEBT

The net debt of New York City on June 30, 1951, was \$2,601 million. Only a small part of this, \$85 million, was temporary debt. The rest was long-term debt (\$2,327 million) and a small amount of land and contract liabilities (\$189 million). This section will therefore be restricted to an analysis of the long-term debt.

The long-term net debt is about evenly divided between serial bonds (\$1,226 million) and "corporate stock," that is, sinking fund bonds (\$1,101 million).

The serial bonds are so called because the bonds issued at any one time are called for redemption in series: one group in one year, another in a succeeding year, and so on. On the other hand, the sinking fund bonds of any one issue remain outstanding until they are all redeemed in the year of maturity, but a fund of liquid assets is built up gradually, to be sufficient to pay off the bonds en bloc at maturity. The gross debt is the total amount outstanding, without taking into account the existence of sinking funds. The net debt is that remaining after subtracting the sinking funds.

Over two-fifths of the net debt was issued to construct or purchase the subway system. About one-fifth was incurred for the water supply system.

Service on the City's debt is about \$260 million a year. Of this amount

\$146 million is for redemption and \$114 million for interest. However, part of the interest payment is really redemption of debt, for this reason: the City's sinking funds hold, for the most part, the City's own bonds. Thus part of the interest payment is from the City to the City, and goes to swell the accumulating assets of the sinking funds. Only about \$92 million interest is chargeable to City bonds not held by the City itself in its sinking funds.

New York City bonds, like all the other state and municipal bonds, are exempt from Federal income tax. Because of this tax exemption, they sell at higher prices (lower yields) than even Federal bonds. But New York City's bonds do not command as good a price as do bonds of many other cities. One reason is that New York City bonds constitute so large a part of total municipal bonds: nearly 11 percent (held by private, institutional, and corporate portfolios). Bond investors want diversification.

A comparison with other cities shows that New York City's debt is at or near the top, by some measures. Per person, it is far larger than that of any other large city. It is also largest in relation to aggregate true value of taxable property.

In 1900, the net funded debt of New York City was \$266 million. In 1950, it was \$2,268 million. But if the debt



is divided by the population, thus put on a per person basis, and if the great rise in the price level since 1900 is allowed for by expressing the per person figure for both years in terms of 1950 dollars, the debt has increased only slightly over the half century—from \$219 per capita in 1900 (in 1950 dollars) to \$289 in 1950.

In 1941, to be sure, the debt, in these terms, was \$340. The sharp rise in the price level in the last ten years has greatly lessened the economic importance of the City debt, at the expense of the bondholders.

Municipal borrowing is justified for large capital projects that are irregular in their timing; to finance them on a pay-as-you-go basis would involve great swings in the tax rate. It is also justified if by so doing a municipality can time its public works more for depression periods than otherwise. The only point to be made here is that it would be an error to assert dogmatically that the municipality should always borrow for capital improvements or, on the other hand, should always follow a pay-as-you-go plan.

New York City is limited in its power to incur debt by the State constitutional provision that the net debt shall not exceed 10 percent of the five-year average of the aggregate full value of taxable real estate. However, so many exceptions have been voted by the legislature and the people (as amendments to this

constitutional provision) that out of the total net funded debt of \$2.3 billion, \$1.0 billion has been issued under these special exemptions, outside the 10 percent limit.

The pay-as-you-go provision of the 1936 City Charter, calling for a gradual transition to such a status for some part of the debt, has been so gradual and so limited that it has apparently not yet resulted in any substantial change in the City's financing policy.

### Recommendations

We have few recommendations to make in the field of debt policy. The chief one is to improve New York City's credit standing to the point we believe it should rightfully occupy by keeping investors better informed of the City's financial status, and by offering long-term bonds on the market more frequently instead of putting them all in the sinking funds.

Another major recommendation, that dovetails with the preceding one, is that a much larger part of the City's sinking funds be invested in Federal securities. A higher yield can be obtained from such securities (because they are taxable, though of course not to the City). The City would gain financially, and also, as noted above, in its relations with investors, if it would sell on the open market some of its sinking fund holdings of City bonds, using the proceeds to buy Federals of similar maturity.

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## SECTION 2

# ACTION OF THE MAYOR'S COMMITTEE

The Mayor's Committee recommends that the City develop a revenue structure capable of meeting the City's long-term needs, including filling the prospective expenditure-revenue gap for 1953-54, without resorting to temporary and makeshift expedients. The revenue structure should be capable of reasonable expansion in the event that either inflation or deflation impose a need for additional revenues. In case the City adopts any more taxes sensitive to the general business cycle, steps should be taken to protect the City's finances against economic recession by setting up a Tax Stabilization Fund.

The Mayor's Committee does not set forth a single, set revenue program, in view of the fact that the final selection of revenue sources must be made by City and State officials. But the Committee calls attention to a number of possible measures, which it recommends be given highest priority in considering new revenue sources.

One of the most important considerations in formulating such a list of alternatives and possibilities is the availability of the various revenue measures. Some can be put into operation by amendments or additions to the City laws; others will require amendment of the State Constitution or action by the State Legislature. Any program capable of meeting the City's immediate, as well as long-range, requirements must therefore be constructed with a complicated timetable in mind and geared

into the City's prospective revenue requirements.

The programs as presented are mutually interdependent. The Committee's recommendations concerning finances are conditioned upon acceptance of our recommendations re the economy and management improvement programs. It would be no service to the City or its citizens to "solve" the City's financial program simply by raising taxes. That course of action would be more likely to produce waste than more and better service and would have adverse economic effects.

Accordingly, the Mayor's Committee on Management Survey makes three basic recommendations:

(1) We insist again that the top-side general management of the City must be drastically reorganized so that the City may count on adequate and efficient management of its affairs for the future. Our plan of action is presented in Chapters II, III, IV, and V of Volume I.

(2) We insist that the City undertake immediately a vigorous program of economies.

(3) And we recommend that there be developed a revenue structure capable of meeting the City's needs, including filling the gap for 1953-54, without resorting to makeshift and temporary expedients. The program should be capable of reasonable expansion in the event that inflation or unemployment imposes a need for additional revenues, and contraction in the event that revenue needs decrease. Steps should be taken as soon



as possible to protect the City's finances against economic recession, or to enable the City to meet a recession without increasing tax rates or piling on new taxes.

With the above considerations in mind, the Committee presents the following priority list of tax and revenue possibilities:

### City Taxes

(1) Continue the 3 percent sales tax and extend the tax to sales of beer. Beer is now exempt although other alcoholic beverages and soft drinks are taxed. Taxing beer would produce about \$7 million per year. The continuation of the sales tax will require State action, but its extension to beer can be effected immediately by City decision.

(2) Restore by Constitutional amendment the City's authorization to impose a 5 percent tax on pari-mutuel betting. Under present State legislation the City gradually loses the 5 percent rate, 1 percent each year, beginning January, 1952. This eventually will cost the City from \$12 million to \$15 million a year unless the full tax is restored. Restoration of the full 5 percent would increase revenues by about \$6 million in 1953-54.

(3) Levy special assessments (local-area assessments) for the repaving of streets and the reconstruction and rebuilding of sewers and other assessable improvements, where the local benefit is measurable or exceeds the original cost. This measure requires City action only. At present, special assessments are imposed only for the original costs of paving and construction.\*

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\*Including that part of any repaving or reconstruction project which extends or enlarges the original improvement.

(4) Increase all real estate assessments to full value. The Finance Project reported that some properties are now underassessed as a matter of policy and that the City ultimately could obtain another \$32 million a year by bringing all assessments up to full value. This also requires no State legislation.

The Committee recommends that where underassessment is a longstanding policy, it would be eliminated gradually over a period not exceeding five years. This would alleviate hardships from increased taxes on properties long underassessed. Under this policy the full benefit to the City Treasury of eliminating underassessment would not be realized for ten years, due to the fact that the Constitutional tax limit is based on an average of assessments for the current year and the preceding four years.

Much the same effect could be obtained if the State would reduce the New York City equalization ratio to a more realistic figure. However, this alternative measure would have the disadvantage of continuing the discrimination inherent in the present system.

(5) Reduce the rate of the financial tax from four-fifths to two-fifths of 1 percent when fiscally possible.

### City Charges

(6) Survey the finances of the water system to determine the rates necessary to meet full operating and debt service costs. Increase rates sufficiently to make the system self-supporting, on condition that the City simultaneously proceed with a program of universal metering as a means of relating water consumption to water charges and thus reducing costs.



Unless prompt action is taken, the water system will become a heavy drain on the City. In the past two fiscal years, the system, which has long been self-supporting, has shown deficits of \$3.8 million a year. In the present fiscal year (1952-53) the deficit is expected to reach \$9 million.

(7) Reduce the Staten Island Ferry deficit by about \$1.2 million by increasing the passenger fare from 5 cents to 10 cents and the vehicle fare by 10 cents a vehicle.

(8) Impose a charge for the valuable service now rendered automobile owners who park their cars overnight on City streets. This service costs the City a considerable amount in added increased costs in street cleaning, garbage collection, traffic congestion, and so on, and hence it is similar to public-utility services. A \$5 a month charge (which the City is now empowered to levy) and the increased use of parking meters would net about \$25 million a year.

(9) Review periodically the City's other service charges, license charges, and inspection fees. Charges and fees should generally be scaled to meet the costs of the corresponding service rendered, or inspection or regulation required.

### City Grants

The Committee recommends that the State re-examine the State aid program in the light of the economic conditions and needs of New York City which have changed since the present programs and formulas were originally conceived. We particularly urge attention by the State to the following areas:

(10) State aid for maintenance and construction of City streets and for traffic control. The Committee believes

that the State's policy should recognize that urban streets serve motorists generally, not just city motorists, and that cities and villages are entitled to a share of the "benefit" taxes collected from motorists. Under the formula proposed in the Finance Project Report, New York City would receive about \$25 million a year.

(11) New York City's special school problems, resulting from the heavy immigration of families from foreign-language or underprivileged areas. These people, whose immigration is fostered by present Federal and State policies, impose additional school costs of at least \$10 million a year upon the City. We believe that the State should meet at least half of these costs.

(12) Higher education support. We recommend that the State support the City colleges on the same basis as it now supports the upstate community colleges, until such time as the City colleges are incorporated into the State university system. Equal treatment of upstate and City colleges would bring about \$6 million a year to the City.

(13) Health and welfare grants. We recognize that there are different methods for dealing with different cases of welfare assistance. Most individuals can best be assisted in their homes, but many do not have homes in the conventional sense and must rely on assistance of an institutional nature. The State law has arbitrarily excluded institutional assistance, although in so doing it has placed the financial burden on the City, which in administering a welfare program must choose those methods which best fit the cases before it.

We recognize that the problem of institutionalization in New York City is a difficult one for the State in draw-



ing its administrative lines, but we feel that the State should base its definitions of eligibility (under its present system) on the need and resources of the welfare recipient and on his possible rehabilitation, not on the instrumentalities through which he is given public assistance. When "institutionalization" is made the basis of determining State reimbursement, a line is drawn which rules out many of the cases confronting the City of New York.

We believe that State grants for health and welfare are in need of review so that there may be no discrimination against the City, particularly in the following categories:

(a) Tuberculosis patients. Remove the ceiling imposed by the State on reimbursement for hospitalization of tuberculosis patients. The State reimburses the City for 50 percent of such hospital costs, but the ceiling on these payments is set at \$2.50 per patient-day. Since hospital costs for tuberculosis patients average about \$10.00 per patient-day, reimbursement is 25 percent rather than 50 percent of costs. Removing the ceiling would have produced about \$6 million for the City in 1952.

(b) Hospitalized home relief cases. Modify State procedures to permit State reimbursement for 80 percent of City expenditures on hospitalized home relief cases. At present the City is reimbursed for 80 percent of its expenditures on home relief, but when a recipient is hospitalized, all State reimbursements are stopped. If home relief hospitalization costs were reimbursed in the same manner as other welfare categories, the City would have received about \$2 million additional revenue in 1952.

(c) Home infirmary cases. Arrange

for State participation in the grant program for public home infirmary and lodging house cases. At present, the City receives Federal, but no State aid for such cases established as eligible for Federal assistance. State participation in this program would have produced an additional \$1 million in revenue for the City in 1952.

(d) Day care for children. These centers provide care for some 5,000 children of low-income families and, by enabling the parent to work, keep the size of welfare rolls down. By not working within the rigid categories of welfare assistance, in this case by providing a form of aid more acceptable to those who receive it, the City is forced to pay the entire bill. The State participated in this program until 1948 but withdrew on the grounds that the program is a form of institutional care. State participation at 80 percent in this program would have produced about \$3 million in 1952.

(e) Foster care for children. This program aims to provide facilities to supplement the services of private child-caring agencies for children who cannot be provided for in their own homes. This program is closely allied with other welfare categories, and by not participating in its support the State puts on the City the full burden of providing assistance in needy cases. In 1952 the City would have received about \$15 million if the State had reimbursed the City for 80 percent of its expenditures.

(f) Shelter care. The State Department of Social Welfare had approved some reimbursement for this activity, concerned primarily with rehabilitation and assistance to the homeless indigent. In 1951 the City opened a new shelter on Hart Island, and the State reviewed this grant. On the basis of an opinion



from the Attorney General this assistance was adjudged to be institutional care and reimbursement was withdrawn. If the State had participated in this program, the City would have received over \$1 million in 1952.

### **Real Estate Tax Limit**

(14) Ratify the pending amendment to increase the City's constitutional real estate tax limit (exclusive of debt service) from 2 to 2½ percent. The increased taxing power cannot be made available before January 1, 1954.

### **Local Income Tax**

While the Committee has voted against the adoption of a local income tax, the Committee recognizes that the income tax must receive careful consideration if the City finds it must raise from \$100 million to \$200 million a year from new sources because of inescapable needs or the rejection of the alternatives set forth above. If an income tax is considered, we urge that it apply only to personal incomes, that the rate be kept low, and that exemptions in the neighborhood of \$600 a year be granted to taxpayers and dependents. Administration and compliance should be made as simple as possible.

A Tax Stabilization Fund should be considered an integral part of any income tax plan. The working arrangements for such a plan as proposed is designed to replace from 80 to 95 percent of the revenues lost from possible declines in the yields of the City's income-sensitive taxes. The plan proposed would work automatically, minimizing the possibility of raids on the Fund.

### **Administration**

The Committee endorses the recommendations of the Finance Project consultants, presented in their final Report, "The Financial Problem of the City of New York," for strengthening tax enforcement and tax research, especially by consolidating all tax administration into a unified Tax Department with the addition of a small but well-equipped Tax Research Bureau.

### **Transit Deficits**

The list of alternatives, possibilities, and lines of action recommended above is vitally affected by the method of financing transit operations, traffic controls, and parking operations. If transit, at least, is removed from the expense budget, as suggested in Chapter VII, Volume I, or in any other effective way, the City may be free to pick and choose from the above list. If, however, a transit deficit of \$70 million or more a year must be carried in the expense budget, few if any of the above major tax and revenue sources can be overlooked. This serves to point up again both the importance of the policies on transit finance and the reason why the Committee presents its suggestions on the financial program as an adjustable list of priorities and possibilities, rather than as a set and final package.

In the judgment of the Mayor's Committee on Management Survey, there can be no comprehensive long-range financial program for the City without working out at the same time both a long-range policy for financing transit operations and a degree of agreement with the State on the revision of certain State-City financial relationships.

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## CHAPTER V

# City Planning

### EDITORIAL NOTE

Although program plans as they affect and are affected by administrative organization and techniques were an important part of many of the Committee's studies—notably in such areas as education, hospitals, health, sanitation, etc.—no over-all comparative evaluation of the capital improvement program as a whole was included in the mandate of the Committee. However, a review of how the City is prepared to deal with such matters was definitely considered to be part of the Management Survey, and is covered in the Report by John D. Millett, Professor of Public Administration, Columbia University, digested in Section 1 of this chapter. To add to the perspective in which the subject must be viewed, there is added certain material on capital budget preparation, excerpted from special memoranda prepared for the Budget Study of the Finance Project. This will be found in Section 2. Action of the Mayor's Committee follows in Section 3. In this action, the Committee does not endorse the consultant's recommendation for changing the Charter provisions regarding zoning, and calls for the continued exercise by the Board of Standards and Appeals of its exclusive right to grant variances from the regulations concerned in the Zoning Resolution.



## SECTION 1

**THE CITY PLANNING COMMISSION\***

BY

JOHN D. MILLETT

The City Planning Commission of New York City has functioned at a relatively low level of activity during most of its life since 1938. Then, beginning in 1950, the Commission received a 40 percent increase in its appropriations for personal services. A new chairman took over in January, 1951, and an extensive reorganization of the staff was carried out during that year. New direction was given to the work of the staff as well.

Before any conclusive evaluation is made of subsequent progress it seems only fair to consider that additional experience must be accumulated by the Commission along the lines of the work as laid out in 1951 and early 1952. Some partial conclusions are possible, however, and some specific problems have been made evident which will require careful attention in the next few years:

(1) In general, the functions and status of the City Planning Commission as specified by the 1938 City Charter are satisfactory and workable and should not be substantially altered.

(2) The planning role of the Commission is only a part (although a very vital part) of the whole planning function of City government. This fact seems to be generally appreciated

within the Commission and its staff but requires constant restatement outside of the Commission.

(3) The Commission needs to give more attention to strengthening the planning role of the operating departments, and to encouraging, stimulating, and guiding departmental planning activities. While this is being done, the function deserves recognition as a formal policy and objective of the Commission's work.

(4) The Commission needs to make master planning the central core of all its work and to keep day-to-day activities in capital budgeting, in modifying the zoning resolution, in reviewing map changes, and in advising the Board of Estimate on various construction matters secondary to this primary responsibility.

(5) The Commission must continue to press for high-quality personnel and adequate salaries, while remaining alert to make sure that it does not permit any duplication of staff work or allow its staff to be swamped by nonessential detail.

The work of the City Planning Commission has already been useful to the City in numerous ways. The Commission's potentialities for usefulness are greater than ever as the City's needs for capital improvement expand, and as it becomes increasingly important to obtain the best possible results from limited resources for City development.

\* Digest from "The Administrative Role of the City Planning Commission in the Top Management Structure of New York City," by John D. Millett, March, 1952.



## Definition of the Commission's Role

The City Planning Commission has faced a number of difficulties in defining the objective of its work. The City Charter of 1938 (adopted in 1936 but effective January 1, 1938) assumed rather than expressed any concept of City planning as a definite administrative activity. Moreover, the Commission was without precedent in the City government when it began to operate in 1938.

From some 14 years of activity certain definitions of essential function have become apparent to the membership of the Commission and its staff. These functions have never been reduced to paper, however, or adopted in a clear-cut statement of policy by the Commission.

The essential element in defining function is that the purpose of City planning is the orderly, intelligent, and comprehensive development of long-term programs of capital improvement. The work of the City Planning Commission concentrates almost exclusively upon problems of physical layout and growth of the City. The Commission is not an agency for reviewing fiscal policies and plans, for reviewing the substance of educational and recreational plans, or sanitary plans. It is concerned with the physical aspects of City life, with City geography, and with City structures.

This concern cannot be confined solely to those physical features of the City environment which come under direct City operation, namely, street layout and the location of City facilities such as bridges, parks, school buildings, hospitals, and fire stations. The Commission should oversee the use made of private property in order to prevent the indiscriminate intermingling of residential,

commercial, and industrial facilities. It should control the height and area of occupancy of structures in the name of the public health, safety, and interest. Moreover, City government has responsibility for assisting redevelopment of residential facilities and even for constructing new housing.

The function of the City Planning Commission is that of performing the planning role essential to the City administrative structure as a whole—in other words, central planning.

Much of the initial planning of needed City physical facilities must be done by the so-called operating departments. In this phase the task of the City Planning Commission is that of encouraging and helping the departments to do a good job by providing them with information about expected growth and by indicating broad general objectives for future development. In addition, the task of central planning requires the Committee to review all the proposals of the operating departments for future development in order to co-ordinate programs (where conflicting ideas of desirable land-use appear); in order to decide the relative urgency of various needs (since the financial resources for development are limited); and in order to insure adequacy of plans in the light of anticipated future growth of the City. Further, there may be certain activities which only a central agency can perform: the review and proposed revision of zoning regulations is one such activity; the review of proposed plans for redevelopment by private owners may well be another.

It must be remembered, however, that since City physical development is an essential feature of City government, the final decisions must be made by elected officials, both executive and leg-



islative. An administrative agency like the City Planning Commission is a facilitative body in that it helps the officials who have final political responsibility to make their decisions.

A crucial aspect of this concept of purpose is that of the administrative relations that exist between the Commission and the operating departments. On the one hand, the operating departments must be encouraged in every way possible to accept definite responsibility for planning their physical facility needs. On the other hand, the operating departments must not proceed to plan these needs without consideration of the limitations imposed by general objectives of City development, the needs of other operating departments, and the availability of financial resources. The City Planning Commission has been so concerned about the second element that it tends to soft-pedal the first. The situation is further complicated because no positive techniques have been devised whereby the Commission can stimulate and at the same time guide departmental planning activities.

In terms of the technical competence of engineers, of architects, and of social scientists, planning education has made great strides in this country in the past 20 years. But if more stress were laid upon organization techniques in the educational preparation of planning personnel, the problem of defining and performing its particular planning role as related to other City departments would be less troublesome for the Commission.

The term "master planning" should be synonymous with central planning. Master planning embraces two fundamental ideas: (1) long-term objectives for City physical development, and (2) comprehensive programs of development which bring the general plans of

individual operating departments into harmonious adjustment with each other.

Naturally, the Commission must, and does, perform a great deal of day-to-day work. But it cannot be repeated too often that this day-to-day planning is only so much work unless it is guided by long-term goals, or in other words, by a master plan. While a master plan of City development can never be rigid, some sense of long-range goal is essential if expediency is not to be the end of all physical improvement planning.

### Responsibility and Authority

The four major responsibilities of the New York City Planning Commission are set forth in a varying degree of detail by the 1938 City Charter. First the Charter prescribes that the Commission shall "prepare and from time to time modify a master plan of the City . . ." Second, the Commission is "the custodian of the City Map" and must "complete and maintain the same and . . . register thereon all changes from action authorized by law." Third, the Commission is responsible for initiating modifications or revisions of the City zoning resolution. Fourth, the Commission must submit a capital budget to the Board of Estimate by the first of November each year, recommending all capital improvement projects to be undertaken in the ensuing calendar year.

**The Master Plan**—The City Charter specifies a wide variety of "desirable" physical improvements to be included in the master plan: "streets, roads, highways and the grades thereof, public places, bridges and tunnels and the approaches thereto, viaducts, parks, public reservations, parkways, squares, playgrounds, roadways in parks, sites for public buildings and structures, building zone districts, pierhead and



bulkhead lines, docks and wharves, waterways, routes of railroads, omnibuses and ferries, locations of drainage systems, sewers, sewage treatment plans, incinerators, water conduits and other public utilities privately or publicly owned and such other features, changes, and additions as will provide for the improvement of the City and its future growth and development and will afford adequate facilities for the housing, transportation, distribution, comfort, convenience, health and welfare of its population." Obviously, no future project for the physical development of the City was intended to escape the purview of the master plan.

The City Charter goes on to provide that after adoption of the master plan or "any part thereof," no project "affecting the master plan or the City map" is to be authorized by the Board of Estimate without prior report from the City Planning Commission that the proposed project "conforms to the master plan." In the absence of a positive recommendation from the Commission, the Board of Estimate may approve a project only by a three-fourths vote.

The words of the Charter apparently envisaged that the City Planning Commission could and would prepare a long-range plan for the physical development of the City, and that this "master plan" would then be the standard for preparing the annual capital budget and for authorizing individual capital improvements. Actually, no such master plan has ever been prepared.

Perhaps the nearest thing New York City has had to a comprehensive master plan was the shelf of public works projects put together at Mayor LaGuardia's direction before the end of World War II, which has provided the basic frame-

work for much of the capital improvements undertaken since 1945.

Shortly after the Commission began to function in 1938 it endeavored to put together component parts of a master plan for such facilities as parks and recreation areas, health centers, arterial highways, and schools. Each operating department was requested to prepare a master plan for the future development of the physical facilities in which it was interested. The Commission then held public hearings on these plans, but the entire procedure was not too satisfactory. Most departments were not prepared to lay out long-range development plans, and the staff of the Commission was in no way prepared to draw all the proposals into a "master map," let alone otherwise to review their adequacy or utility.

The Commission was reorganized in 1951 to create an Office of Master Planning as one of two primary staff units. In turn, this office was divided into a division of research and a division of planning. Thus the Commission prepared again to embark upon a concerted effort at master planning.

The accumulation of basic knowledge about the City's population, economic development, and land use are absolutely essential to any concept of master planning. Future needs for physical improvements must be determined in the light of actual population growth and its location in the various sections of the City. In addition, much of the City's whole future must depend upon the changes that occur in its economic position in the nation. The Commission has made a good start toward providing these data.

Since a master plan must necessarily be prepared in segments, some speciali-



zation in the master planning activity of the City Planning Commission is necessary as an organizational arrangement, and must also be necessary in the preparation and review of actual documents labeled "master plans." These master-plan segments may conveniently follow along major fields of City government activity performed by operating departments.

In the initial preparation of the materials for these master plans, the operating departments will obviously have to carry the major burden. Many departments are preparing, or have prepared from time to time, just such long-term programs for desired physical facilities.\* This work must be speeded up in many instances; in some instances it needs to be done with greater care and with more attention to interrelationships with other departments and to the objectives formulated by the City Planning Commission.

But a master plan, as defined in the Charter, is not a master plan until it has been adopted by the Planning Commission. As far as legal prescription of authority is concerned, the Commission would seem to be adequately provided for; departments can see their long-term objectives given the status of a master plan only when the Commission is satisfied with these goals.

Also necessary are master plans of proposed land use which accomplish at least two purposes: (1) All proposals for future development of City facilities must be brought together and analyzed in terms of their impact as a whole upon the future development of the entire City. Only the City Planning Commission can do this. And (2) the land-use

plans must show projected controls over private redevelopment of land, realized through both the zoning resolution and approval of actual redevelopment projects.

The Commission must make the preparation of master plans a first-priority responsibility. To do otherwise will be to perpetuate past difficulties in which the Commission was so swamped with its day-to-day activities that it could never find time or personnel to worry about long-term future development.

The Commission itself has considered whether or not it should have some specific legal provision for being a central statistical agency of the City government on population and economic trends. Data on these subjects are obviously indispensable to master planning. However, the Charter provisions, which vest extensive authority in the Commission to adopt a master plan, would seem sufficient to insure that all operating departments proceed along common assumptions. Two major needs are evident: (1) the Commission should have an adequate staff for gathering together all available population and economic data for Commission and departmental use; (2) the operating departments should regularly review these data.

**The Capital Budget**—The present practices in capital budgeting must be evaluated in terms of two different goals. One is to achieve an orderly, systematic program of all the physical improvements to be undertaken by the City in the following year, with the budget therefor drawn up in the light of available funds for capital projects and in the light of past commitments. The coupling of a five-year program with the actual budget assists greatly in exercising some control over future project obligations.

\*ED. NOTE: The City Planning Commission contends that the number of departments qualifying with long-term programs is negligible.



For example, it is not always realized that site acquisition is likely to take about a year. This process should be started one or two years in advance of construction, but it is wasteful indeed unless there is some reasonable assurance that construction will then follow as intended.

The next stage of preparing construction plans and specifications may take nearly another year. Actual construction may not then begin until two or more years after a project is once officially approved. The capital budget procedure helps to bring all these various stages into orderly fiscal relationship, making possible central choices about the urgency of competing physical improvement needs.

But the primary purpose must still be to insure that all projects are calculated to help achieve some carefully thought out and defined objectives for the future physical environment of the City. It is in this respect that capital budgeting has been least successful.

Some conflicts have existed in the past between the Planning Commission, the Bureau of the Budget, and the operating departments about the desirability and urgency of some particular capital projects. If the departments and the City Planning Commission can speed up their arrangements for long-range master planning, the review of an annual capital budget will become far more meaningful. As it stands now, the central organs of City government must approve various projects for physical improvement without the benefit of knowing the long-term objectives of which the project is only a part.

The Budget Director has an important interest in capital budget commitments. Not only must an adequate amount for debt service go into the cur-

rent expense budget each year, but also new physical facilities may entail increases in a department's current appropriation requests for personnel and supplies to operate and maintain the facility. The Bureau of the Budget has not kept its review within these terms of reference, but has been encouraged to range far beyond, simply because of the inadequate master planning by the City Planning Commission.

This problem of relationship between Commission, Budget, and departments may be attacked simply by endeavoring to build more cordial personal co-operation among the staff of these offices. But friendly and joint co-operation among City administrative agencies is not enough. Capital budgeting in New York City will continue to be haphazard and inadequate until it is guided by definite long-term objectives.

However, real crisis in the capital plant of New York City has little to do with planning procedures. It is a crisis in finance.

**City Map**—Under the City Charter the City Planning Commission is custodian of the City map. All plotting of land into streets, avenues, public places, and blocks for private use requires approval of the Board of Estimate upon recommendation of the City Planning Commission.

Just as a master plan is not one large blueprint, the City map is not one large "master" map of the City. Rather, it is a series of maps. It is the means by which all physical improvements throughout the City are recorded in a usable form. Officially, the City Planning Commission maintains four maps, each of 35 sections. One set of maps shows street layout for the City, including all grade levels. Other sets are used



for zoning purposes, for land-use purposes, and for indicating structures. The Commission also maintains a fifth "City map" called a "public improvement map." This is a series of 35 maps which shows the public action taken since the Commission was created and which affects various parts of the City.

All these maps are extremely important to private landowners because no private land development project can be carried out in the absence of exact information about present and projected street lines and grades, or without knowledge of zoning restrictions. The private developer may ask the Board of Estimate to replot certain street layouts or he may ask for amendments to the zoning resolution by the Commission.

In addition, physical improvements proposed by public agencies may necessarily involve some change in the City map. It is even possible that one public improvement project in a given area may conflict with another. The review of each project in terms of map changes is a desirable cross check.

Since the Board of Estimate generally refers all matters of physical improvement to the Commission, and since inquiries from private persons must be answered as made, the staff of the Commission has a sizeable task simply in handling this flow of work.

The Commission may handle many routine and individual project proposals on a bit-by-bit basis, and the volume of such work has often compelled it to do so. But if the day-to-day work is to have any long-term meaning, then long-range development plans (or master plans) must be provided for all major fields of City improvements. The present authority of the City Planning Commission to maintain the City map is

adequate to insure that no major physical developments will take place without its knowledge or without an opportunity to comment.

**Zoning**—Since 1938 no changes have been legally possible in the City's zoning resolution without prior consideration by the City Planning Commission. The Commission may enact a zoning resolution unless disapproved or modified by a three-fourths vote of the Board of Estimate. When owners of 20 percent of the land affected protest a proposed zoning resolution, it can become effective only by unanimous vote of the Board of Estimate.

Unquestionably the Commission has had adequate authority to initiate zoning changes. On the other hand, the requirement of unanimous action by the Board of Estimate in the face of a protest from owners of 20 percent of the land affected makes adoption of a comprehensive zoning regulation almost impossible. Soon after its creation the City Planning Commission prepared a comprehensive zoning resolution. This was adopted by the Board of Estimate only after certain controversial features had been removed.\* In July, 1950, a consulting firm hired by the Commission submitted a proposed zoning resolution. In March, 1952, this resolution was scheduled for hearings by the Commission. By extensive consideration, negotiation, and hearings the Commission hoped to frame a general zoning resolution which would be widely acceptable and hence avoid challenge by 20 percent of the property owners of the City.

\*ED. NOTE: The City Planning Commission has stated that the rezoning here referred to was not comprehensive, and that it considers the 1950 proposal as its first really comprehensive revision. It has also pointed out that the 20 percent protest feature creates problems with respect to smaller rezoning amendments, but that for a comprehensive revision a 20 percent protest would be extremely unlikely.



The City Planning Commission spends a good deal of time in taking action to modify the existing zoning restrictions, usually in order to assist some proposed land development project. There is some question whether the Commission should take this kind of action or should leave all exceptions to the Board of Standards and Appeals. The principal justification for the existing practice is that this action is part of a whole parcel of approvals sometimes needed for any large-scale development effort. But the Commission itself must be the jealous guardian of its own time, if it is not to become a substitute for the Board of Standards and Appeals in hardship cases.

**General**—The authority of the Commission has been criticized by some outside groups as inadequate, since the Commission cannot modify or disapprove physical improvements undertaken by Borough Presidents and which are to be paid for by special assessment upon abutting property owners. In some instances, the benefit thus supposed to be conferred upon private property owners is assessed on a Borough-wide basis. From the point of view of the property owners, this is just another property tax indistinguishable from other real property taxation. The owners then would like to have some protection by being assured that the project was badly needed. They would like also to have some fixed limits upon the volume of such projects undertaken in any given period of time.

But this situation is not a problem of inadequate authority vested in the City Planning Commission. It is a problem in Borough-City relations, and can be attacked only in those terms. The situation can be rectified, if it needs to be changed, by vesting power of approval

of all assessable improvements in the hands of the Board of Estimate. All such projects, instead of just some of them, might then be included in the annual capital budget. Under these arrangements the City Planning Commission, in adopting these projects, might then become advisor to the Board of Estimate.

It would appear that the City Charter is somewhat confused about the exact status of the City Planning Commission in adopting the City's zoning resolution. In effect the Charter treats the zoning resolution as an administrative order, subject to veto by the Board of Estimate in the face of any widespread opposition by affected property owners. It would be more appropriate, and more in accordance with prevailing concept and practice in this country, to regard zoning as an exercise of legislative authority. If this were done, then the Commission's authority would be one of recommending zoning action to the Board of Estimate (and perhaps also to the City Council) for adoption by a simple majority vote. At the same time, initiation and adoption of any zoning ordinance over the disapproval of the Planning Commission should require a three-quarters vote in the Board of Estimate.

### **Status and Composition of the Commission**

The New York City Planning Commission is unique in structure, status, and composition. First of all, the Commission is an advisory agency to the Board of Estimate, rather than to the Mayor, in the top-management of the City's physical development programs. Second, the importance and far-reaching nature of this advisory role have been recognized by giving the agency a collegial membership, appointed for over-



lapping terms of eight years and protected from removal except upon notice and hearing. Third, the Commission's actions are not those of an ordinary central staff agency. In exercising its authority to adopt master plans, to recommend capital budgets, and to pass changes in the zoning resolution, the Commission must hold public hearings and formally consider the points of view of administrative officers and outside groups. Fourth, the Commission as a collegial body acts by majority vote, but its chairman and staff constitute the City Planning Department.

All these facts mean that the Commission plays a highly formalized role in the top-management consideration of physical improvement programs. The Commission is a kind of "check and balance" in the center of the City's government, since its action is not final but requires positive action by the Board of Estimate, sometimes by three-fourths vote and sometimes by unanimous vote. In a democracy such location of final responsibility for action in a body popularly elected and periodically subject to popular approval seems absolutely essential.

In terms of its short existence, the Commission has proved to be a workable management body. On the one hand, it provides a continuing reminder to the City's elected officials that few decisions they make are of greater importance than those on physical improvements. On the other hand, it helps the City's top officials to make these decisions in the light of the best available thought and foresight of a central staff agency responsible for seeing the City as a whole.

Undoubtedly, the commission form of organization at the center of the City's administrative structure means

that any pledge of the elected officials of the City to undertake particular types of physical improvement is subject to delay, to a kind of "cooling off period" before action is possible. Just such a situation was apparently intended by the Charter Commission of 1935. The provision for a commission with long and overlapping terms of office was intended to remove the members "as far as possible from political control."

However, the status of the City Planning Commission is not entirely one of glorious isolation. Other provisions of the City Charter make it possible for a Mayor to develop close working relations with the Commission if he so desires. First, the Mayor designates which member of the Commission shall serve as chairman, and second, the chairman of the Commission is also head of the City Planning Department.

The Charter provides that the Mayor shall appoint six members of the Commission (the seventh member is *ex officio*, the chief engineer of the Board of Estimate) and shall designate one of the members to serve as chairman. Terms are eight years, so staggered that a vacancy occurs each year, except for a two-year stretch every six years. It would probably be an improvement if the terms were fixed at six years instead of eight, thereby insuring one vacancy each year.

Between 1938 and 1952 there were six different chairmen of the City Planning Commission, no chairman ever serving a full eight years. This turnover suggests that resignations may also insure that a Mayor has a virtually free choice in naming a chairman personally satisfactory to himself.

The 1938 City Charter is by no means clear as to just what the City Planning



Department is supposed to do or how it is to be distinguished from the City Planning Commission. It provides that "there shall be such engineers, architects, experts, and other officers and employees of the department as may be required to perform its duties and within the appropriation therefor." In practice, the staff work of the Commission has been organized as the Planning Department. This makes the chairman the administrative head of the planning staff.

While the relationships of the Commission to the Mayor and Board of Estimate may be somewhat formal, this situation has its advantages. It means at least that there will be some institutionalized point of separate comment on physical improvement projects undertaken by the City. This arrangement can still be of immense importance economically and otherwise.

The present organization does give considerable scope to the play of personality factors, and this is altogether desirable. One recent chairman felt strongly that his role was one of arousing public sentiment on various issues in order to help guide the Mayor and Board of Estimate toward desirable decisions on physical improvements. Another chairman preferred to work quietly behind the scenes to help the Mayor and Board of Estimate by obtaining a large measure of agreement among administrative agencies. Both persons proved to be effective leaders of the staff.

The Charter failed to specify whether the members were to serve part time or full time. Practice decided the question early. Mayor LaGuardia had in mind the kind of person whom he wished to appoint to the Commission—the distinguished, interested citizen—but he

found that many of the persons he named would and could serve only part time even when the compensation for the position of Commission member was fixed at \$8,500. Thus the tradition has grown up that Commission members do not serve full time. In 1950 Chairman Finkelstein proposed that the compensation be raised to \$14,000 annually and that all members serve full time. This suggestion was not approved by the Mayor or Board of Estimate. In general, it would seem that a part-time Commission is preferable, and there is no reason to recommend a change. The practice of paying \$8,500 a year does not seem unreasonable for the caliber of person needed.

While the posts of Commission member admittedly could easily degenerate into political plums, one can only report that this has not happened to date. On the whole, the Commission has been fortunate in the quality of its membership.

Two other peculiarities of Commission membership may be noted. The Charter provides for the chief engineer of the Board of Estimate to serve as a member of the Commission *ex officio*. This provision has worked out quite well.

Another member of the Commission also serves, in effect *ex officio*, although he has been appointed in his own name. This is the Commissioner of Parks. The result is that a department head in the City government is also a member of the agency which must pass upon Park Department programs for physical development. Certainly, under ordinary circumstances this kind of situation would not be expected to arise and is not a generally desirable arrangement. However, Commissioner Robert Moses has been exceedingly interested in broad



problems of City development ranging far beyond his role as head of the Park Department. For this reason there was good cause to make him a member of the City Planning Commission.

The Commission meets regularly one day a week, usually alternating between public and executive sessions. In addition, it may meet more often when extensive hearings must be held.

On the whole, while it does tend to become concerned with many small matters which might better be left to the discretion of the chairman and the staff, we must conclude that the existing structure and status of the City Planning Commission seem generally satisfactory and that there is no important reason for change from its present practice.

### Internal Organization

The City Planning Commission is literally swamped with a vast volume of current business, immense and trivial, but all requiring some attention. At the same time the Commission is expected to adopt master plans for the City's future development. Annually, it has a capital budget to approve and submit to the Board of Estimate. This cannot be done merely as a matter of routine; it requires months of advance preparation and consideration.

In the press of circumstances, and within limited resources, the Commission's staff in the past has had to give most of its attention to current matters. When the staff was increased in the fiscal year 1951, the intention was to concentrate all the enlarged personnel on master planning activities. Partly in order to insure that this purpose was realized, the Commission's staff was divided into two major parts. In addition, for the first time the position of

administrator was created to serve as a kind of executive officer to the chairman, and to help achieve the necessary collaboration between the two parts of the staff. This was a forward step.\*

The Office of Technical Controls is concerned with all the current requests for advice or inquiries referred to the Commission. In addition, it is responsible for the detailed work in preparing the annual capital budget. The Office of Master Planning is concerned with the preparation of long-term master plans for the City's future development.

The difficulties inherent in this organization are twofold. First, there is grave reason to doubt whether current planning and long-range planning can be divided into neatly segmented compartments. Second, there is considerable likelihood that such an organizational arrangement will result in setting up units and specialized personnel with the same interests, separated only by the injunction that one group of zoning planners, for example, will worry about current zoning changes and the other will worry about long-term zoning changes. Should not the best possible staff brains on zoning, or on sanitation facilities, or on educational facilities be concerned with both short-range and long-range planning?

It might well be that the chairman and his executive officer will find that the Office of Technical Controls (perhaps better designated the Technical Office) should specialize in handling the procedural phases of the Planning Commission's work. As at present, this office would then maintain the central records, would receive all matters referred to the Commission, and would

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\*ED. NOTE: Since the Millett Report was published, the City Planning Commission has advised that a position entitled "Administrator" was in effect during 1938-41.



prepare all action papers for the Commission; would maintain the various official maps of the City, would do the detailed work of capital budgeting, and would do all the specialized work of drafting and reproduction. The Office of Master Planning (perhaps better labeled the Planning Office) would then be concerned with the substantive issues presented for Commission action. Its work would then be divided as at present along functional fields such as transportation, water supply, and sanitation, housing, land use and zoning, and general service facilities (such as parks, school buildings, hospitals and health centers, police and fire stations). What has just been suggested would seem to be the way the present organization is tending to develop. It might help clarify working relationships, however, if this fact were clearly recognized and specified in the department's thinking.

It would be well if the Commission were able to locate all its staff in one building.

**Personnel**—In the fiscal year ending June 30, 1950, the average salary available for the Commission staff was about \$4,760. In the ten years which witnessed a rise of about 80 percent in the consumers price index, the average salary of the City Planning Commission was increased 40 per cent.

For the fiscal year 1951, Chairman Finkelstein submitted a budget request asking for 202 employees, with an appropriation for personal services amounting to nearly one million dollars. In presenting this budget request, the Chairman insisted that past appropriations had enabled the Commission simply to keep up with the routine phases of city mapping, zoning, garage applications, capital budgeting, and review of assessable improvements. He estimated

that less than 25 percent of the work on the Master Plan had been advanced. Another argument presented by Chairman Finkelstein was a comparison of New York City support of the central planning function with that provided in other large cities. In Philadelphia, for example, the city planning budget amounted to 25 cents per capita, in Los Angeles 24 cents, in Detroit 18 cents, in Cleveland 12 cents, and in Cincinnati 16 cents. In New York City the appropriation for City planning was not quite 4 cents per person of the City's population.

The City Planning Commission did obtain a substantial increase for the fiscal year 1951, and a small increase added in 1952. Actually when the increase of staff from 66 to 112 was appropriated for in 1951, the Commission was still unable to carry out this expansion. Having had 63 persons on its staff on December 31, 1949, the Commission was able to build up only to 91 persons on December 31, 1950. As of December 31, 1951, the Commission had a total personnel strength, including 5 Commission members, of 100 persons. This was still 18 persons short of the actual number of positions appropriated for.

The Commission's staff strength has lagged behind authorized strength because the available salary compensation has been low, and while recruits were being sought, present staff members were resigning to accept positions outside the City government at salaries 50 to 100 percent above those available in the Commission. The City's Civil Service lists have not been able to provide the high-quality personnel needed by the nature of the Commission's work. The Budget Director frequently questioned the need for positions when appropriated for, or insisted upon salary com-



pensation below that desired by the Commission.

In the past, the Commission has occasionally been able to overcome staff limitations by hiring outside consultants to undertake certain work for it. Thus, in 1948 the Commission obtained funds from the Board of Estimate which enabled it to hire the firm of Harrison, Ballard and Allen as consultants in studying and preparing a new zoning resolution.

We should like to suggest that the Commission give more attention to quality in its staff rather than to quantity, stabilizing it at about 125 or 130 high-caliber persons. In this connection, one of the imperative needs of the Commission is for a higher average salary level.

As a central planning agency, the staff must concentrate upon central planning functions and not exacerbate relations with operating departments by endeavoring to do their work all over again. More and better planning, we repeat, is sorely needed in the operating departments and should be performed at that level in the City's administrative hierarchy.

### Public Relations

Should the City Planning Commission be an anonymous staff, content to aid the Mayor and Board of Estimate to the best of its ability, or should the Commission, as custodian of a long-term vision of City progress also explain, defend, and advocate that vision?

The only really satisfactory answer surely is that the political officials of a city must fulfill their political role, and that role is to lead. The primary reason for having a City Planning Commission is to assist the responsible political organs of City government in making their important and far-reaching deci-

sions and in seeing the needs of the City as a whole.

Unfortunately, very few groups in a great City like New York organize on the basis of watching out for the interests of the City as a unit. Rather, there are organizations of garage owners, of apartment house owners, of realty operators and others, all of which are continually concerned with protecting and advancing their own individual interests. Thus, outside of a handful of citizen groups concerned with City welfare as a whole, the City Planning Commission must pursue its lonely course amid the clamoring objections of many individual interests. For this reason, there have been suggestions from time to time that the Commission should be more active in organizing advisory committees, primarily in order to acquaint more persons with the problems of the City's future growth and to mobilize their interest on behalf of long-term objectives.

As far as performing the details of its staff work is concerned, the Commission might obtain some help from advisory committees, but the amount of this assistance would probably be trivial. The real reason for setting up such committees would be the political, not the administrative, assistance they might provide.

The answer then must be political, and in these terms the only possible response would seem to be that the role of the Commission must depend upon the personal desires of the Mayor and his colleagues on the Board of Estimate. In the meantime the few citizen groups that make it their business to watch the affairs of City government as a whole have a vital work to carry out. It is to be hoped that they will not relax their vigilance, nor cease to make their voices heard.



## SECTION 2

**CAPITAL BUDGET PREPARATION**

The capital budget of the City of New York is intended to be an instrument of fiscal policy compiled to indicate what physical public improvements will be undertaken by the City government during the course of a year's time. The capital program is an extension of that budget, in point of time, to show the

capital projects to be undertaken in the succeeding five years. Both the budget and the program are made up of capital projects to be undertaken by or for various City departments and agencies. Unlike the expense budget, the capital budget operates on a calendar year rather than a fiscal year basis.

**THE DEBT-INCURRING POWER\***

Before the capital budget and the capital program can be planned, it is essential to estimate the available debt-incurring power of the City during each of the six ensuing calendar years. This debt-incurring power is limited, with certain exceptions, by the New York State Constitution to 10 percent of the average of the total assessed valuation of taxable real estate for the last five years.\*\* Among the obligations exempt from this limitation are those issued for transit, dock, and hospital facilities, and for water supply.

Taking part in the capital budget and capital program process are the Comptroller, the Budget Director, the Mayor, the City Planning Commission, the Board of Estimate, and the Council.

The Charter requires the Comptroller to submit a report not later than August

15 to the Board of Estimate, to the Council, to the City Planning Commission, and to the Director of the Budget. This report, among other things, is to include advice on the maximum amount and nature of the debt which, in the Comptroller's opinion, the City may soundly incur for capital projects during each of the six succeeding calendar years. This advice is based to a large extent upon the Comptroller's estimate of the City's debt-incurring margin at the preceding July 1. On the basis of this figure, he must estimate what the future debt-incurring margin will be for each of the six succeeding calendar years. This, of course, is influenced by estimates of the unreserved debt margin at the beginning of the ensuing calendar year, the annual debt expansion for each of the ensuing six years, estimates of expected changes in the assessed valuation of real property, and reduction in the nonexempt debt. The last named occurs either directly, through the retiring of serial bonds or

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\*Excerpt from special memorandum (unpublished) prepared for Budget Study of Finance Project by E. Kurnow, June 1, 1951.

\*\*ED. NOTE: Basis of debt-incurring power was changed to full-value November, 1951.



other maturing obligations, or indirectly, through the additional accumulation of sinking funds for the repayment of debt. The element of estimation involved here is the amount of debt incurred in the succeeding six years that will be retired within that period.

Changes in the law that result in changes in the City's debt-incurring margin must also be considered in making estimates. In recent years many such changes have been made. Thus we have, for example, the exclusion of \$150 million for hospital construction from the nonexempt debt, and the additional exemptions of \$500 million for rapid transit construction and \$30 million for school construction.

On the basis of the foregoing estimates, the Comptroller indicates the probable amount of capital and assessable improvements which may be approved for the next six years. The tendency in recent years has been to allow a margin of approximately \$90 to \$100 million at the end of the sixth year. This type of planning lends an air of artificiality to the capital program for the years following the ensuing calendar year. It is doubtful whether actual capital planning takes place beyond the first few years.

September 1 is the last day for the Director of the Budget to report to the Mayor his recommendations as to the maximum amount and the nature of the debt which in his opinion the City may soundly incur for capital projects during each of the succeeding six calendar years. However, in doing so, the Budget Director merely accepts the August 15 estimate of the Comptroller. His report is usually well written and contains an excellent analysis of the nature of the capital expenditures to be made.

Not later than September 15 the Mayor must submit to the City Planning Commission the September 1 report of the Budget Director and the Mayor's certificate as to the maximum amount of debt which in his opinion the City may incur for capital projects during the ensuing calendar year. The Mayor in determining the maximum amount of debt is guided by the August 15 report of the Comptroller. This figure, if it differs from that of the Comptroller, does so by not more than a few million dollars. Any deviations from the Comptroller's figures are discussed in informal meetings and are not set without the Comptroller's approval.

November 1 is the last day for the City Planning Commission to submit to the Board of Estimate, to the Council, to the Director of the Budget, and to the Comptroller a proposed capital budget for the ensuing calendar year, the aggregate amount of which shall not exceed an amount specified by the Mayor's certificate, and a capital program for the five calendar years next succeeding.

While the City Planning Commission has no discretion as to the maximum amount of capital improvements to be proposed for the capital budget, it has discretion in determining the size of the proposed capital program for each of the five years. The City Planning Commission has in recent years followed closely the August 15 suggestions of the Comptroller as to the size of the capital program for the five-year period. The Commission has, however, deviated from the Comptroller's year-to-year suggestions, although these differences tend to cancel each other out.

By November 15 at the latest, the Comptroller must submit to the Board of Estimate and to the Council a re-



port containing such comments and recommendations with respect to the proposed capital budget and program which he deems advisable.

The Board of Estimate may add or delete items from the capital budget and capital program as prepared by the City Planning Commission. It may, on the basis of a three-fourths vote, adopt a capital budget with obligations exceeding in the aggregate the amount stated in the Mayor's certificate. The Board has, however, not exercised this latter power. It has added and deleted items suggested by the City Planning Commission, but the total budget has always been in keeping with the Mayor's (that is, the Comptroller's) recommendations as to the City's ability to incur added debts.

The City Council may strike out in its entirety any authorization in the capital budget. It may not, however, add to or increase or vary the terms or conditions of any authorization. It thus plays only a very limited role in the adoption of the capital budget. It has no discretion whatsoever as far as the capital program is concerned.

The Budget Director, the Mayor, the City Planning Commission, and the Board of Estimate, in addition to the Comptroller, are given varying degrees of discretion either to estimate the ability of the City to incur added debt or to determine the proper allotment of obligations for the six succeeding years. Nevertheless, once the Comptroller has made his August 15 report, which contains his estimate of the City's debt-incurring margin for the succeeding six years and his ideas as to the allotment of funds during those years, the picture is fairly complete (except for the specific nature of the projects to be undertaken). The other agencies in-

involved have followed the Comptroller's estimates consistently.

### **The Impact of the Capital Budget Upon the Expense Budget**

That the relationship between the expense and capital budgets is a very important factor to be considered when the capital budget is being formulated is recognized by all who are engaged in the formulation of the capital program. To date, however, very little has been done to measure the impact of the capital budget upon future expense budgets.

At the present time the City Planning Commission in its proposed capital budget and capital program includes estimates of the additional annual debt service and of the additional annual maintenance and operation expenditures that will be incurred by each of the suggested capital projects. Similar estimates appear in the capital budget as it is finally adopted. The latter estimates are merely an exact replica of the estimates presented by the City Planning Commission.

The estimates of the annual debt service prepared by the City Planning Commission are unsatisfactory. The Commission gives the average of the amortization and interest over the years. It is a fact, however, that the debt service charges on serial issues are highest in the early years and gradually decrease. The average is, therefore, not a practical figure from the point of view of year-to-year expense budgeting. Moreover, the calculation of debt service by the City Planning Commission does not take into account the partial "pay-as-you-go" requirement, which for 1950-1951 will require 26 percent of certain improvements to be financed from one- or two-year capital notes. This percentage keeps increasing.



each year by 2 percent. It can readily be seen that the redemption of and the interest on these short-term notes are reflected in the expense budgets.

The estimates of annual maintenance and operating costs are not made independently by the City Planning Commission. The Commission merely accepts the estimates made by the various departments as to the probable annual costs, although it does check the estimates for any glaring inaccuracies. It appears very unlikely that all the de-

partments are adequately staffed to make these estimates of annual operating and maintenance costs accurately. In final analysis, it seems that the estimates of both annual debt service and annual operating and maintenance costs are included merely to satisfy certain Charter requirements.

The City is thus faced with the fact that there is no power co-ordination between the capital and expense budgets, although everyone concedes the necessity for such co-ordination.

## PROJECT PLANNING\*

With the receipt of the departmental estimates, the staff of the City Planning Commission prepares a consolidated statement of such estimates for all City departments and agencies, including consolidated totals for pending and new projects. This document serves as the starting point for the departmental hearings by the Planning Commission usually held during the last two weeks in August, although in 1950 the departmental hearings were held during the period of August 21 to August 31.

The departmental hearings give the departments an opportunity to explain in detail their capital requests and answer any questions that may be raised. The public may attend these hearings but may not be heard. The Budget Director or designated members of his staff must be present. The members of the Board of Estimate and a representative of the City Council have the right to attend, although they usually do not, preferring to rely on the Budget Director and his staff to secure the nec-

essary information for them. In addition, the Chief Engineer, who serves the Board of Estimate as head of its Engineering Bureau and who is also *ex officio* a member of the City Planning Commission, attends the departmental hearings. He knows the facts presented and works with the other members of the Commission in preparing the proposed capital budget, as well as in advising the Board of Estimate on proposed capital projects.

The City Planning Commission, on the basis of the City's debt-incurring power as previously indicated, prepares a proposed capital budget shortly after October 7. The Commission then holds public hearings on its proposed capital budget at which time all interested persons may be heard. Thereafter, in continuing consultation with the Budget Director and his staff and on the basis of the best information available, it adopts a proposed capital budget.

The proposed capital budget and program of the Planning Commission are subject to severe limitations in regard to ultimate purposes and objec-

\*Excerpt from a special memorandum (unpublished) prepared for the Budget Study of the Finance Project by Alvin K. Peterjohn, June 1, 1952.



tives because there are no acceptable long-range plans for any of the major functions of the City. An over-all program for library development prepared in 1945 offers some guidance to the Commission in regard to the future development of library facilities. However, it is becoming rapidly outdated.

In order to alleviate this very glaring weakness in planning current and future capital development, the "master plan" is being prepared as rapidly as possible. But this is a very recent development, and such a plan will not be available for some time to come.

The City Charter provides certain restrictions on capital project authorizations. No City obligations may be authorized in any year for a project not included in the budget as finally adopted, or in excess of the amount authorized for the project by the capital budget. However, if the low bid for a project exceeds the authorization by 15 percent, and if two-thirds of the members of the Planning Commission make such a recommendation, the Board of Estimate may amend the budget in accordance with the recommendation. When such action is taken, it is certified by the Mayor and submitted to the Council for approval. Approval of the amendment by the Council then leaves only the process of certification to be completed and the amendment is authorized.

### **The Budget Bureau and The Capital Budget**

With the receipt of the departmental estimates by the Engineering Division, the Budget Bureau's participation in the capital budget process is inaugurated, and this participation continues until the capital projects become a reality. Members of the Engineering Division's staff examine all the requests,

analyze the needs and justifications for the capital projects, and attend the departmental hearings on the budget and program. Departmental estimates of the effect of proposed capital projects on the expense budget are examined carefully, with first-hand checks being made in the field and also through consultation with the budget examiners for the departments.

By the middle of September, field examinations, etc., of the projects are completed, and budget conferences and intradepartmental discussions are held with the Budget Director. Prior to final adoption of the proposed capital budget and program by the Planning Commission, the Budget Bureau recommends changes as regards capital projects in view of its best judgment.

Following the adoption of the proposed capital budget, the Planning Commission's participation in the capital budget process is practically at an end, but the Budget Director is required by Charter to submit a report containing his comments and recommendations with respect to the proposed capital budget by November 20. This gives him and his staff an opportunity to influence the deliberations of the Board of Estimate on the capital budget. All decisions made by the Board of Estimate and the Council reflect in strong measure the advice of the Budget Bureau.

### **Assessable Improvements**

As a general concept, capital programs and capital budgets are thought of as embracing all physical improvements, including such things as streets, bridges, sewers, parks, etc., without regard, in terms of budgeting, as to how they are financed. In New York City, however, those projects financed



by the assessment of special levies against the property owners benefited by such improvements are not a part of the capital budget.

The term "assessable improvement" means, according to Charter, any public betterment involving either a physical improvement or the acquisition of real property for a physical improvement, consisting of: (1) streets and parks; (2) bridges and tunnels within the jurisdiction of a Borough President; (3) receiving basins, inlets, sewers, and plants for the treatment, disposal, or filtration of sewage; and (4) fencing vacant lots and filling sunken lots. Assessable improvements are paid for from revolving funds for which reserves are provided as a part of the borrowing done by the City against its 10 percent debt margin.

The present practice of constructing assessable improvements involves their original initiation either by the Board of Estimate or by one or more of the local improvement boards, of which there is one in each of the five Boroughs. Each local board is composed of the respective Borough President as chairman and all members of the City Council elected from the Borough. The boards receive petitions for assessable improvements from affected property owners or from the Borough President involved, hold public hearings, and approve them by resolution. Improvements costing \$10,000 or less may be undertaken without approval by the Board of Estimate, provided that they have been approved by the City Engineer. Other assessable improvement resolutions are forwarded to the Board of Estimate for consideration. The Board in turn submits them to the City Planning Commission, which has six weeks in which to consider the proposals and recommend

approval, modification, or disapproval of them.

Assessable improvement resolutions approved by the Planning Commission may receive preliminary authorization from the Board of Estimate by majority vote; those not approved require a three-fourths vote of the Board of Estimate to be authorized. Preliminary authorization allows the Borough President or department head having jurisdiction to prepare plans and estimate the cost of such improvements and furnish whatever other information the Board of Estimate and the Chief Engineer may require.

At any time within two years after the preliminary authorization of an assessable improvement or within two years after the date on which the resolution was referred to the Chief Engineer, if the resolution requires the taking of real property, the Board of Estimate may authorize the public improvement in question. The Board's resolution must fix the areas of assessment in proportion to benefits received, including the cost of the improvement to be borne by the City or by any Borough.

If assessable improvements so constructed cost more than the assessment levy, an additional assessment can be made to cover the excess cost; if a surplus results, that part of the assessment levy is refunded. Assessable improvement expenses of the Borough Presidents or their staffs are assessed on the Borough as a whole and are levied and collected as is any other assessment upon the Borough. The expenses of any other agency are provided for in the budget and paid by the City.

Two funds are used to provide moneys for assessable improvements. These funds, known as the "street and park



opening fund" and "street improvement fund," are really revolving funds consisting of the proceeds from the sales of serial bonds authorized either for street and park openings or for street improvements to be paid for by assessments for benefit and all collections of assessments for improvements payable from such funds. These serial bonds, of course, are part of the borrowing attributable to the restrictions on the City debt. Therefore any increase in the total dollar amounts of assessable improvements is reflected in an increased amount of borrowing necessary to provide reserves for the assessable improvements, and by the same token reduces the amount of moneys available for capital budget purposes within the debt limit.

There is no over-all planning or programming of assessable improvements beyond the listing of all such contemplated projects in the back of the proposed capital budget adopted by the Planning Commission. In his statement of August 14, 1950, outlining the City's financial condition and advising on the financing of its capital budget, the Comptroller indicated that in his opinion assessable improvements totaling \$280 million could be approved in the years 1951 through 1956. The proposed capital budget and program carried requests for assessable improvements amounting to nearly \$245 million for the period 1951 through 1954 alone.

Integration of the present capital budget and assessable improvement processes is essential to insure simultaneous consideration of all such problems by both the legislative and executive bodies concerned. Master plan development without the integration of all fiscal planning of capital improvements to implement it is quite absurd.

## Beyond the Adoption of the Capital Budget

The heads of departments and agencies of the City government, once having obtained approval of desired capital projects, find that even after adoption of the capital budget they still do not have authority to spend money. Instead, each step that they wish to take in bringing capital projects into being must first be handled as would any other request for funds from the Board of Estimate. While departments may go to the Board of Estimate for funds for projects in the capital budget, projects not in the capital budget will not be considered until the following year unless the capital budget is first amended and then a request for funds made. Hence the capital budget is not a budget in the true sense of the word because funds are not actually made available by its adoption. It is in reality a fiscal plan for certain types of physical betterments that may be undertaken if the moneys are appropriated.

A procedure of this type means that the Board of Estimate has to consider and approve practically *de novo* each step in the construction of every capital project undertaken by the City of New York. As a legislation function this step lengthens the time it takes to get projects completed, but even more important, there simply are not enough hours in the day to permit the legislative body to consider each proposal fully. It must rely on the advice of the City Engineer, the Budget Bureau, and the Planning Commission. Therefore it would seem only sensible to allow these agencies, particularly the Planning Commission and the City Engineer, to have full responsibility for approving the various steps on the construction of capital projects subject only to residual control



on over-all project appropriations by the legislative body.

The capital budget as adopted is similarly not a good index of what moneys will actually be appropriated during the course of a year's time. Frequent amendments and allowances for 15 percent increases in the amount of total appropriations as heretofore described indicate quite clearly that the capital budget will generally underestimate the exact dollar amounts that will be appropriated.

### **Fiscal Integration\***

Integration of all capital improvements into a unified program including both the capital budget projects and the assessable improvements has been mentioned as an imperative need for the City government. However, there is a still greater need for the complete integration of these fiscal entities with the expense budget. Capital projects and assessable improvements do have a real and direct effect on the expense budget. The present practice of considering part of the City's budget needs in the spring, other parts in the fall, and then revising them during the course of the entire year is without justification. The legislative bodies of the City should face squarely at one time the whole problem of City finances.

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\*ED. NOTE: This recommendation is also made part of the final recommendations of the Finance Project. See pp. ....

When a capital project is completed it does not cease to be a municipal problem. In most cases it must be maintained, and if it is in the nature of a building or an institution, it must be placed in operation, staff must be provided, and supplies and materials must be made available. Planning for this sort of situation is an integral part of the planning and consideration of the expense budget. Such conditions must be prepared for, not handled by the transfer of funds as the need arises.

Borrowing for capital construction must be repaid, and debt service is an important part of the expense budget. For the fiscal year 1951-1952, the expense budget provided over \$248 million for debt service, or approximately 18 percent of all moneys to be expended for operating purposes.

The argument may be raised that the simultaneous consideration of both the capital and expense budgets would overburden the facilities of the executive and legislative bodies of the City government. Apparently this was not the case in June-July 1946, when the entire capital budget prepared the previous fall was completely revised so that for all intents and purposes it was as if a new capital budget document had been prepared. The amended capital budget, a matter of public record, is a concrete example of the fact that expense and capital budgets can be considered simultaneously.

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## SECTION 3

**ACTION OF THE MAYOR'S COMMITTEE**

(1) The Committee endorses in general the conclusions of the Report, which on the whole finds the functions and status of the City Planning Commission as specified by the 1938 City Charter to be satisfactory. Inasmuch as the Commission has functioned at a low level during most of its life, with substantial budgetary increases, additions to personnel, and reorganization of staff occurring only within the last two years, we agree that additional experience must be accumulated along the lines of work laid out by the Commission in 1951 and early 1952 before further evaluative judgments can be made. However, we find the progress already made and the general attitude and philosophy of the Commission to be encouraging.

(2) We note the recommendation for changing the Charter provision regarding zoning. However, since the owners of some \$20 billion worth of real estate in the City would be affected, we urge that more study be given this question.

(3) We are of the opinion that the Board of Standards and Appeals should continue its exclusive right to grant variances from the regulations contained in the Zoning Resolution. There is no appeal from a decision of the Commission, while an applicant, if dissatisfied with a decision of the Board of Standards and Appeals—a quasi-judicial body—can appeal to the courts.

(4) We concur in the conclusion that the Commission must make master

planning the central core of all its work. To this end we strongly concur in the concept of the Commission's relationship to other departments, as developed by the Report—namely that the operating departments must be encouraged in every way possible to accept definite and primary responsibility for planning for their own physical facility needs, while being required to plan for these needs in conformity with the general objectives of City development, the needs of other operating departments, and the availability of financial resources. It is with respect to these last three factors that the Commission plays its important role of co-ordinator through advice and persuasion. In this connection, we have called for strengthened capital-budget and long-term program planning in the major departments reviewed in the course of our other studies—specifically in such departments as Education, Hospitals, Fire, and Sanitation.

(5) We find that the Commission has not been able to attain its increased staff strength as authorized in the past two years, largely because of salary limitations. We concur in the desirability of increasing the professional salary levels, as advocated in our recommendations on Civil Service reclassification. We sympathize with the Commission's point of view that it needs additions in staff to handle its routine load, but we urge consideration of the Report's recommendation that the Commission concentrate upon quality rather



than quantity, recruiting higher-caliber personnel compensated appropriately by a higher salary level, and concentrating on central planning functions with the operating departments carrying the load of routine research and engineering work in the preparation of capital programs. We believe the Commission should have a staff sufficient to do the job it is intended to do, utilizing the present City departments to the maximum extent possible. We emphasize particularly the need for adequate salaries for such a staff, so that the professional personnel will remain with the City of New York over a considerable period of time, instead of regarding the New York assignment merely as a training course for a career elsewhere.

(6) In line with the above, we agree that the Commission should have a competent organizational unit for gathering available population and economic data for Commission and departmental use, but caution against establishing a large-scale statistical operation. Most of the pertinent statistics required for departmental planning must be developed by

the departments themselves, since such information must not only be geared to specific department needs, but must also be obtained with a minimum of time lag. The Commission's function in statistics should be largely an evaluative one—stimulating the proper statistical work in the departments, providing co-ordination with respect to certain data such as population trends which should be uniform in all departmental calculations, and advising the Commission as to the validity of assumptions on which departmental programs are based. This is an important staff advisory function, not primarily a statistical gathering function.

(7) The Mayor's Committee feels that the question as to who should have primary responsibility for the preparation of the capital budget requires further study. We urge that this matter be looked into by the Mayor's Board of Management Improvement, with special emphasis on the relationship between the Bureau of the Budget and the City Planning Commission in respect to capital budget preparation.

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## CHAPTER VI

# Personnel

### EDITORIAL NOTE

The highly critical comments on personnel policy and practice contained in practically all Reports by the consultants of the Mayor's Committee on Management Survey confirm the wisdom of the Committee's early decision to undertake, in addition to its management studies of individual departments, a series of "across-the-board" studies concerned specifically with personnel processes throughout the City government. Digests of the published Reports of these studies, together with certain additional information as indicated, are brought together in this chapter.

The first study, by Griffenhagen & Associates, aimed at terminating the chaos and admitted inequity in the grades and wage rates of municipal employees by substituting orderly classification and compensation systems for the existing Civil Service classifications and pay. (Important exclusions from this study were the compensation of uniformed police and fire forces. These are separately dealt with in the chapters on police and fire.)

The Griffenhagen Report was presented in four volumes: Volume I includes the text of the report of transmission, the schedule of proposed pay scales, and supplements; Volume II (bound with Volume I) includes lists of proposed classes of positions; Volume III contains the definitions of the proposed classes; and Volume IV presents the suggested allocations of positions to the proposed classes. In this chapter we present



a digest of Volume I, giving the description of what was done and conclusions and recommendations reached; sample pages from Volumes III and IV are included.

In formulating the specifications for the above studies, the Mayor's Committee had the assistance of a Technical Advisory Committee, with representation from the Civil Service Commission, the Bureau of the Budget, the Civil Service Reform Association, and the Citizens Budget Commission.

Space obviously does not permit reproduction in this chapter of the complete proposed schedule of salaries for all classes of positions, as given in Volume II. However, to give an indication of salary ranges, a listing of all occupational groups and vocational categories, together with titles and salaries of representative positions, is appended to the digest of the Griffenhagen Report, Section 1 of the chapter. The published Report by Griffenhagen & Associates contains a full listing of all classes of positions, alphabetically and by occupational and vocational groupings, together with salaries proposed. But the reader will note from the Report of the Formal Hearings Board (mentioned below) and from the action of the Mayor's Committee as given at the end of this chapter, that departures from the Griffenhagen classification, titles, and pay are advocated.

To enable the reader further to place the Griffenhagen Report in proper perspective, the digest and appendix are followed in Section 2 by a summary of a special analysis of compensation of New York City employees, prepared by Lyle C. Fitch of Headquarters Staff, comparing pay and pay trends of municipal employees with those of other employee groups, and with cost-of-living indexes.

In line with specifications for the Griffenhagen study as originally laid down by the Mayor's Committee, a Formal Hearings Board, appointed by the Chairman of the Committee, furnished an opportunity for all interested employee, civic, and professional groups and City officials to voice their objections to or support of the consultants' proposals, and for Griffenhagen & Associates to answer such comments and to clarify or modify their own position. Chairman of this Board was Thomas Tozzi, Chairman of the Subcommittee on Career and Salary Plan of the Mayor's Committee on Management



Survey. The other two members were Abraham D. Beame, Budget Director of the City of New York, and Luther Gulick, Executive Director of the Mayor's Committee on Management Survey. The Board conducted 14 sessions during the period January 28—April 16, 1952, hearing 293 individuals and representatives of groups. The summary of the Board's findings is included as Section 3 of this chapter.

The second study directly bearing on personnel matters was an analysis and comparison of the various pension systems now maintained for employees of the City of New York, by Joseph Schechter, Counsel of the New York State Department of Civil Service. The Report on this study was published by the Mayor's Committee under date of October 15, 1951. The factual material thus brought together was itself a concise digest of voluminous data bearing on pensions, and is not digested in this chapter. However, Mr. Schechter was requested to prepare a supplementary statement on the steps by which the City can move toward a better pension system. These recommendations, together with reference title and information on the scope of the original Report, are given in Section 4.

The third study, by Richardson, Bellows, Henry & Company, Inc., reviewed recruitment procedures, organization for recruitment and examinations, and quality of examinations of the Municipal Civil Service Commission, and presented an evaluation of the service rating system now employed by the City. The digest of this Report constitutes Section 5.

The fourth study, by Wallace S. Sayre and Herbert Kaufman, integrated the information on personnel administration contained in the Reports on specific departments and activities conducted by the other project teams of the Mayor's Committee on Management Survey, with special attention to the studies directly bearing on personnel, outlined above. Their Report, digest of which is given in Section 6 of this chapter, is based also on additional documentary sources, consultation with City officials and employees and with civic leaders, and upon Mr. Sayre's experience as former member of the New York City Municipal Civil Service Commission. It discusses the defects of present processes, presents an over-all statement of the



goals of a City-wide personnel system, and offers a program for action.

Two Reports by the Division of Analysis of the Bureau of the Budget were undertaken in part at the request of the Mayor's Committee, covering the functions, organization, and procedures of the Municipal Civil Service Commission. These are digested in Section 7.

In arriving at its conclusions, the Mayor's Committee had, in addition to all the foregoing material, the advantage of a summary of the doctorate thesis, "An Evaluation of the Personnel Function as Administered in Operating Agencies of the Municipal Government of New York," 1950, by Theodore H. Lang, Personnel Officer, Administrative Staff, Board of Education, and analyses of the Richardson, Bellows, Henry & Company and the Sayre-Kaufman Reports submitted by the Municipal Civil Service Commission, dated May 29, 1952.

The action of the Mayor's Committee is presented in Section 8. As to the classification and pay plans, the Committee has adopted the Report of the Formal Hearings Board, which advocates using the Griffenhagen material as a base, but does not accept the Griffenhagen Report as a finished plan of action. The Sayre-Kaufman and the Division of Analysis Reports differ on over-all organization for personnel administration. While not exactly in conformity with either, the action of the Mayor's Committee follows in the main the pattern of the Division of Analysis recommendations, retaining the Civil Service Commission on its present basis, but calling for a Personnel Director to be appointed by the Civil Service Commission, subject to the approval of the Mayor and with tenure at the pleasure of the Civil Service Commission. The classification unit is placed under the Civil Service Commission.

Expansion of the basic conclusions of the Committee on personnel administration are contained in Volume I, Chapter V. Differences of opinion existed within the Committee, as reflected in the minority statement in Section 8.

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## SECTION 1

**CLASSIFICATION AND PAY**

BY

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This project was the largest position classification and compensation study ever undertaken. It covered about 86,000 of the roughly 225,000 positions in the City service. It excluded public authorities, an estimated 29,400 positions in the Police and Fire Departments, 46,100 teaching positions, about 16,200 skilled trades positions paid at prevailing rates of wage under Section 220 of the Labor Law, 39,800 operating positions in the Board of Transportation, 589 exempt positions, and sundry others numbering around 5,800.

**The City's Role as an Employer**

The City should be a model employer; it should be a leader among progressive, large employers, and its pay scales should be as liberal, or somewhat more liberal, than those in effect for similar work among progressive, justly-managed business establishments, so long as such rates are not capricious or obviously illogical.

The City administration should recognize that it is the trustee for the citizens

and should keep before it the hard fact that any payments at higher rates than conform with prevailing practice, liberally interpreted, will contain an element of subsidy for one section of the citizenry at the expense of the whole body.

The road to good government, good service, and true economy requires measures that will bring into the public service, and keep in the public service, persons qualified for the work to be done, adequately compensated, and justified in looking upon their work as a career.

**The Classification Plan**

**The Meaning of "Class" or "Class of Positions"** — The process of analyzing the duties of the positions that make up the service, of ascertaining the distinguishing characteristics of each position, and then of bringing them together in homogeneous classes is known as position-classification. The basic unit of classification is the "class" or "class of positions." A class may be defined as a group of positions, the duties and responsibilities of which are sufficiently similar to permit them to be treated alike for purposes of pay and selection at the time of selection.

**Classification of Positions and Not of Incumbents**—A sharp distinction must

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Digest from "Classification and Compensation of the Service of the City of New York, Volume I—Report of Transmission, Schedule of Proposed Pay Scales, and Supplements; and Volume II—Lists of Proposed Classes," by Griffenhagen & Associates, September 29, 1951.



be drawn between the terms "position" and "incumbent." A position is an employment involving a particular set of duties and responsibilities which the incumbent performs. It is the positions that are classified, not the persons who happen at a particular moment to fill them.

Position-classification is an objective, not a subjective, process. It is concerned with the type and level of duties that make up a particular position, and is not in the least concerned with the competency, industry, seniority, or any other quality of the individual incumbent who is discharging those duties at a particular moment.

**The General Processes and Methods of Classification**—In the present position-classification project the name "vocational category" has been given to the broadest division of classes having similar occupational characteristics, and the term "occupational group" has been used for a somewhat narrower division. But this is mere framework and is done for convenience only; neither the vocational category nor the occupational group has any basic significance and any of them could be altered without violence to any principle. Their only purpose is to provide a logical and convenient arrangement of the important elements—the classes.

In developing the recommended classification, information was gathered as to the organization and work of the departments and their subdivisions, and as to duties, responsibilities, and organization relationships of the individual positions to be classified. A prime source of information about individual positions was the statements of individual employees, each of whom was given a full and free opportunity to tell about his work by filling out "position des-

cription forms." The original information thus secured was supplemented by the comments of the immediate supervisor and of the department head. The facts reported on the position description forms were verified through spot field reviews as necessary to resolve doubtful points. The internal organization of each unit of the City organization was carefully charted to reveal all supervision relationships and to bring together all positions at the same level in the line of authority and promotion.

Based upon the facts as to duties and responsibilities, the positions were arranged into broad vocational categories, then into occupational groups, and finally into classes. Positions in the same occupational group that have a close resemblance as to kind of work and differ only as to level are referred to as being in the same "series of classes," e.g., Clerk A, Clerk B, Clerk C.

**The Class Title and the Class Definition**—In order to facilitate the application of the classification plan as a useful instrument of everyday administration, the classes were given distinctive names or "titles" which follow a logical and consistent plan. A particular class title is a tag or label which is intended at all times to have the meaning expressed in the written definition for the particular class. The class title is used in all personnel processes, but it is not intended to preclude the use of other office titles required for internal administrative purposes.

The limits or boundaries of each class are recorded in a written definition describing the class in terms of three important elements, as follows: (1) the kind and level of the characteristic duties of the position; (2) typical tasks or assignments to illustrate the duties; and (3) the qualifications required for



the performance of the work as a further explanation of duties.

It is not intended that the typical tasks of the class definition catalog all of the duties or tasks which might be assigned to an incumbent of a position in the class. It is merely intended to

show tasks that are sufficiently representative to make explicit the kind and level of the duties that determine whether or not a position belongs in the class. (Fig. 1 shows a sample class definition from among the 1,065 turned over to the City.)

FIG. 1—SAMPLE CLASS DEFINITION

CLASS DEFINITION RECORD CITY OF NEW YORK	Class Code	Class Title Dietitian
CLASS DEFINITION: Explanation of scope of class in terms of the duties, tasks, and qualification requirements that distinguish positions of the class from those of other classes:		
1. In Terms of Duties That Are Characteristic as to Type and Level: Work of ordinary professional difficulty and responsibility in the field of dietetics; related work as required, performed under general supervision.		
2. In Terms of Typical Tasks or Assignments: Planning menus; supervising the preparation and serving of food; training, assigning, and supervising dietary employees; checking, ordering, and storing supplies and equipment; being responsible for the cleanliness and sanitation of kitchens, dining rooms, and personnel; keeping records; meeting patients to give diet orders, and observing and teaching food habits.		
3. In Terms of Distinctive Qualification Requirements: a. As to special knowledge, abilities, skills, and other attributes: Good knowledge of, and skill in applying dietary principles and practices. Supervisory ability. Ability to meet and deal with people appropriately and effectively. b. As to special schooling, training, and experience: College graduation with major work in dietetics, home economics, or institution management, including or supplemented by one year of student training in an approved hospital. Any equivalent combination of education and experience.		

The qualification requirements are expressed, first, in terms of the knowledge, abilities, skills, and other attributes which are essential to acceptable performance of the duties of the position; and second, in terms of the special schooling, training, and experience that would produce these qualifications. The qualification requirements expressed are minimum requirements. The phrase "any equivalent combination of education and experience" is used in each definition to allow reasonable flexibility in the application of the requirements. The determination of acceptable equivalents is a proper function of the recruiting agency of the City.

Certain positions may be similar with respect to all but one controlling feature. Usually, such positions involve duties of the same level and degree of responsibility, but are related to different subject matters, or require different types of knowledge and skill and cannot therefore, be considered as belonging to one and the same class. In such cases the positions are grouped in separate classes, defined in one common definition, and referred to as "a set of associated classes."

The form of the definitions for the classes in a set of associated classes is the same as for other classes, except



that the three sections are so written that only one class definition need be prepared for all classes in the set. An asterisk placed after the class title in the heading of the definition form indicates that the definition covers a set of associated classes and a footnote lists the specialty titles in the set.

Each class was given a distinctive title and was defined in standard terms so that positions of any given class might readily be distinguished from positions of any other class in its occupational family. Conferences were held with department officials to elicit comments and suggestions regarding the class titles and definitions, and differences of opinion were resolved insofar as was practicable.

**Allocation of Positions to Classes**—The process of assigning a particular position to the class to which it belongs, on the basis of its duties and responsibilities, is technically known as “allocating” a position.

For every position covered by this study and with the advice and assistance of department officials, the consultants have suggested what has seemed to them to be the proper allocation. The allocations are called “suggested” because it is contemplated that no protested allocation be made permanently effective until a Board of Appeals certifies as to its validity. (The accompanying “Allocation List” is a sample page from the more than 5,000 sheets turned over to the City.)

**Purposes and Uses of a Classification Plan**—Three primary reasons can be recognized for designing and adopting a classification plan. These are:

(1) To provide a firm, sound, and logical basis for a uniform, consistent, equitable, and well-integrated pay plan, based on the principle of like pay for like work with reasonable

rather than arbitrary differentials in pay, the differences to be proportionate to actual differences in the level of work.

(2) To serve as a basis for the whole process of recruiting, testing, and selection.

(3) To provide a catalog of the kinds of positions making up the organization and to give each kind a reference name or label (the class title). This catalog and system of titles is fundamental in planning the organization, in determining staff requirements, in budgeting position requirements, and in making appropriations.

### The Compensation Plan

The compensation plan is an extension of the classification plan by which a specific scale of pay is attached to each class of positions recognized in that plan. It is an evaluation in money or salary terms of all the classes of positions in the service, as named and defined by the classification plan, to regulate the pay of all positions in each of the classes.

Salary rates should be set on the assumption that the best career-minded talent will be attracted and those appointed will be qualified and will perform their work well.

Relationships among the pay scales to be attached to particular classes of positions should be the closest practicable expression of the relationships in duties, responsibilities, and working conditions.

In setting pay scales for classes, the consultants studied values placed upon positions of comparable kinds and levels in public and private employment in New York City, and the rates now being paid by the City (using benchmark positions for this aspect of the work). Outside pay data were collected by personal visits to business firms and other government jurisdictions to be



FIG. 2—SAMPLE ALLOCATION LIST

Name and Present Title	Proposed Title	Present Annual Rate	Agency	Unit	Position Number
Trupin, D. E. .... Inspector of Licenses Gr. 3	License Inspector .....	3540	510	3	62
Ungerleider, N. .... Inspector of Licenses Gr. 2	License Inspector .....	2711	510	3	70
Donovan, F. J. .... Supervising Inspector of Licenses Gr. 4	License Inspection Supt. ....	4140	510	3	52
Bracken, J. J. .... Chief Brooklyn Office	Administrative Asst. A .....	5650	510	3	49
Canino, A. .... Stenographer Gr. 2	Clerk Stenographer A .....	2100	510	3	74
Brennan, J. L. .... Stenographer Gr. 4	Clerk Stenographer B .....	4020	510	3	51
Matrisciani, D. A. .... Clerk Gr. 2	Clerk Typist A .....	1860	510	3	78
Frank, B. .... Clerk Gr. 5	Hearing Steno. C .....	4021	510	3	50
Smellie, S. L. .... Cashier Gr. 3	Cashier Clerk B .....	2461	510	3	73
Dandrea, V. A. .... Clerk Gr. 2	Clerk A .....	1980	510	3	75
Parascandolo, C. .... Clerk Gr. 2	Clerk A .....	2590	510	3	72
Schnell, P. J. .... Clerk Gr. 2	Clerk A .....	1860	510	3	79
Glynn, W. E. .... Clerk Gr. 2	Clerk B .....	1980	510	3	76

sure of the true comparability of the benchmark classes.

Weaknesses in Existing Classification and Compensation

(1) The classification plan in use is the one provided by the Municipal Civil Service Commission. It consists of a short, four-line rule and a series of titles listed under various occupational groupings called "services." Some few titles have grades based on salary limits but some do not, and the top grade usually has no upper limit. There is no record that gives any information as to the nature of the duties and re-

sponsibilities involved in the positions having a given "title" or as to their scope or limits. There is only an incomplete file of examination notices to indicate what kinds of work the titles were intended to cover at the time those examinations were held. There are no class definitions in existence and the best that could be found were brief specifications appearing on examination notices which gave some information on the nature of the positions labeled with a particular title. Unfortunately, these notices are not readily available.

(2) Great variety is found as to duties and responsibilities in positions carried under the same title. Existing



titles often bear no relationship to the actual work. For example:

(a) The proposed class of "Chauffeur" contains positions in existing practice known by 11 titles, including Sr. Lunchroom Helper, Inspector of Housing, Sewage Treatment Worker.

(b) The proposed class of "Office Appliance Operator" in existing practice contains 21 titles including Laborer, Foreman, Inspector of Masonry, Assistant Gardener, Attendant (Male).

(c) The proposed class of "Clerk A" contains positions in existing practice known by 75 titles, including Playground Director, Bridge Tender, Foreman, Hospital Helper, Mechanical Engineer Draftsman, Jr. Civil Engineer, Inspector of Water Consumption, Watchman, Elevator Operator.

(d) The proposed class of "Clerk Stenographer A" contains positions in existing practice known by 23 titles, including Instructor-Trades, Lunchroom Helper, Assistant Gardener, Secretary, Hospital Attendant, Playground Director, Garden Aide.

In many cases the titles are absolutely meaningless and cannot safely be used for any of the purposes to which one would expect to put them. A prime example of a meaningless title discovered during the course of the project is cited as follows:

*Duties*—Receiving foreign diplomatic envoys and other dignitaries; setting up appointments for such persons; arranging press appointments and releases; taking visiting officials, according to their special interests, to various departments to give them an idea of systems of operation.

*Present Civil Service Title*—Sewage Treatment Worker.

There are about 2,571 titles listed by the Municipal Civil Service Commission, counting the "specialties" shown under

some of them. These are distributed as follows: 2,073 Competitive, 251 Exempt, 24 Labor, and 223 Noncompetitive, totaling 2,571.

This figure would be very much higher if the positions listed under "The Ungraded Service" were graded and the other classes without any top limit of pay or grade were divided to produce true classes in a vertical series.

In many instances titles are regarded as belonging to the employee and not to the position. A title is applied more to indicate an employee's Civil Service status than it is to the nature of the work on which he is engaged. There are apparently only a few books of printed rules to be found which contain full lists of position titles.

(3) There are no provisions in the Municipal Civil Service Commission for the maintenance of the classification, such as it is. Part of the time of one employee is given to what might be considered classification matters, but there is no field force available to familiarize itself with the actual work being performed in the positions to be filled. The lack of provisions for maintenance of the classification may be part of the reason that the Municipal Civil Service Commission cannot meet requisitions promptly and must approve so many provisional appointments. The unattractive salary scales for a number of entrance positions contribute to this condition.

The Bureau of the Budget must apply to the Municipal Civil Service Commission for titles at the time of the establishment of additional positions, but the Bureau has nothing to guide it as to the meaning of the titles given and is, therefore, forced to use a terminology that may be inexact and that often



becomes positively misleading as conditions change.

(4) The whole classification idea and the idea of a pay scale closely tied in with position classification is surrounded with misunderstandings and misconceptions. Basic Civil Service laws of the State of New York, which largely control the City situation, are hoary with age, and the rules of the Municipal Civil Service Commission, especially as they relate to position classification, are sketchy and strange. The overlapping between the responsibilities assumed by the Bureau of the Budget and the Municipal Civil Service Commission in personnel matters is bound to be confusing.

(5) The distinction between the position and the employee is seldom considered. The idea seems to be prevalent that the employee carries the position around on his back. When he is to get a promotion, or an increase in pay without promotion, the position is upgraded. If he qualifies for a higher position the idea seems to be that someone must create a higher position in order that he may occupy it, regardless of the need for such a position.

(6) Salary scales have open ends, which means that no kind of position is given any particular rating. In discussions of the subject of salary scales all kinds of unrelated things are mixed: budgetary difficulties, pay requirements, employee rights, and politics.

(7) Across-the-board increases have perpetuated existing inequities and have brought a call for further increases for those whose positions have never been in line in the first place on the basis of any sound and proper measure of the relative importance, difficulty, or worth of the work they are doing.

(8) Under Municipal Civil Service Commission rules, salary is said to be an

indication of rank or grade. However, positions far apart in the scale of rank and importance are carried under exactly the same title.

(9) The City has no comprehensive pay plan. Various schedules apply to various occupational groups but there is very little relationship among them.

(10) Arbitrary distinctions are drawn with respect to pay among so-called laborers, certain classes of positions that come under the prevailing wage statutes, and the groups covered by this study.

(11) At present, "grades" apparently consist of all positions between two named salary rates, the salaries not being ascribed to positions of a certain level of responsibility and importance.

(12) The ranges of salary paid for work that carries the same title and that one would expect to be of the same kind are in some cases extraordinarily long. This is because individual increases have been given without any particular method or rule, or imaginary vacancies have been created at higher salaries for persons who have passed a promotion examination.

(13) There is now no way except in the case of lower paid positions to give any recognition in pay to an employee who has become more experienced, proficient, and valuable on the job, other than through a type of almost fraudulent promotion.

(14) In some cases supervisors are being paid less than the employees they supervise. In short, the two basic principles that should control any compensation plan, namely, (a) similar pay for similar work, and (b) differences in pay logically related to differences in the difficulty and importance of the work, are being violated.

(15) There is no provision in the existing administrative machinery of



the City government even remotely approaching what is required to take care of important personnel problems, and there is no one officer expected to devote himself to the development and administration of personnel policies and procedures.

(16) The Municipal Civil Service Commission confines itself to the function of recruiting. It treats the classification function with one finger of its left hand. The Bureau of the Budget, which is vitally concerned with compensation and classification, has had no authority to work up a classification plan of its own. The provisions of the Charter and of the Administrative Code relating to co-operation between these two agencies have never operated with any degree of satisfaction.

(17) There is no adequate provision for personnel administration in the operating departments, and only two departments have an officer who is called the "personnel officer."

### **Recommended Classification Plan**

The recommended classification plan consists of 1,065 classes if each set of associated classes is considered as only one class; and 1,327 classes if each associated class in a set is counted as a separate class.

The classes are listed by class titles and were arranged by vocational categories and occupational groups, and within occupational groups, by series. This is commonly known as a schematic arrangement. In the listing, the applicable pay scale number for each class is shown. The classes were also listed alphabetically by class title with maximum and minimum rates of pay shown.

Class definitions have also been arranged in alphabetical order by class title.

Allocation lists were prepared and turned over to the City, showing the suggested class of each position covered by the study. These suggested allocations reflect the facts as to duties and responsibilities of City positions as of June 1, 1951, and of positions in cultural institutions as of August 1, 1951. Changes in duties and responsibilities or creation of new positions effected after these dates will have to be considered by the agency that is set up to administer the plan. In the allocation lists, positions were identified by the name of the incumbent, and it is emphasized that the name of the incumbents are for identification purposes only, and have no other significance.

### **Recommended Compensation Plan**

**The Schedule of Pay Scales**—In the recommended pay plan 27 pay scales are set forth, starting with a minimum of \$1,900 up to a minimum of \$18,050 and with maximums from \$2,500 to \$20,950 (see accompanying schedule). The pay scales are divided into two series: the "odd-numbered" and the "even-numbered." The odd-numbered pay scales constitute a continuous series and the top or maximum rate for one scale is the same as the minimum rate for the next higher odd-numbered scale. The even-numbered scales constitute the same kind of continuous series. Each minimum of an even-numbered scale starts at about the mid-point of the next lower odd-numbered scale.

The ratio that the maximum bears to the minimum of each scale follows a consistent pattern; it is somewhat greater in the lower numbers scales than it is higher up. (Scale No. 1—132 percent; Scale No. 2—127 percent; Scales No. 6-No. 8—118 percent; Scales No. 9-No. 24—117 percent; Scale



No. 25-No. 27—116 percent.) The greater spread where the majority of positions are found provides more opportunity in that part of the service for advancement in pay without promotion to a higher class.

The minimum rate is the starting rate for an appointee making his original entrance into the service in a position of a given class. In the case of an appointee by promotion or any kind of transfer, the beginning rate in the newly occupied position should not be less than that received in the prior job, providing this rate is within the new range.

The maximum rate is the highest rate at which an employee in a position of the class is to be paid.

It has been suggested that it would have simplified matters and have given greater flexibility in administration if the schedule had been carried up no further than to about \$11,000 or \$12,000, or some such arbitrary level, and if the last scale beginning at such level had not had any upper limit. There are, however, a great many positions, including some of the most important in the City service, that should be compensated in the area between \$11,000 and \$21,000 a year. These positions differ in responsibility, authority, and administrative and technical qualification requirements, and are found on various levels in the chain of command because of the complex structure of City agencies. Therefore, there is no basis in logic for dumping such classes of positions into one long range.

The proposed compensation plan eliminates the necessity for the strange "ungraded service." It also provides maximums for many classes of positions now listed by title in the so-called "graded services" where no maximums

at all are now applied. Thus the adoption of the plan would remove a condition that flaunts the principle of like pay for like work with suitable differences in pay for differences in the difficulty and responsibility of the work.

The scales proposed are meant to express the gross annual compensation, no matter in what form, payable to incumbents of full-time positions *for competent full-time continuous service under standard City employment conditions.*

**The Importance of the Ranges**—The ranges in pay provide the fairest and soundest and most practicable method for controlling advancement in pay (as distinguished from a promotion). The consultants suggest establishing intermediate rates—or intermediate steps—of \$150. Thus where the range is \$600 there would be four increments of \$150 each. The City must determine what bearing length of service is to have on the rate of advance from step to step. For example, in a range of four intervals, the first three steps might be at one-year intervals and the fourth at two years; or two years might be set for the third and three years for the fourth. But this should not be determined until data on length of service and turnover have been analyzed.

More difficult to determine is the quality of the service which should also be taken into account. The choice is whether to depend on some performance evaluation plan or merit-rating system, or on seniority with or without additional stipulations. But the present merit-rating system does not meet the requirements of a performance evaluation plan and hence a policy of granting automatic length of service increases for satisfactory service provides the only practicable means of assuring that the great bulk of conscientious City



FIG. 3—SCHEDULE OF PROPOSED PAY SCALES

Pay Scale No.	Odd Numbered Scales		Even Numbered Scales		Range Min. to Max.	Ratio Max. to Min.
	Minimum	Maximum	Minimum	Maximum		
1	\$ 1,900	\$ 2,500			\$ 600	132%
2			\$ 2,200	\$ 2,800	600	127
3	2,500	3,100			600	124
4			2,800	3,400	600	121
5	3,100	3,700			600	119
6			3,400	4,000	600	118
7	3,700	4,350			650	118
8			4,000	4,700	700	118
9	4,350	5,100			750	117
10			4,700	5,500	800	117
11	5,100	5,975			875	117
12			5,500	6,450	950	117
13	5,975	7,000			1,025	117
14			6,450	7,550	1,100	117
15	7,000	8,200			1,200	117
16			7,550	8,850	1,300	117
17	8,200	9,625			1,425	117
18			8,850	10,400	1,550	117
19	9,625	11,300			1,675	117
20			10,400	12,200	1,800	117
21	11,300	13,250			1,950	117
22			12,200	14,300	2,100	117
23	13,250	15,500			2,250	117
24			14,300	16,700	2,400	117
25	15,500	18,050			2,550	116
26			16,700	19,425	2,725	116
27	18,050	20,950			2,900	116

workers are not deprived of the benefit of the proposed salary scales.

**Interpretation of Pay Scales for Payroll Purposes**—The rates of pay in the proposed scales are stated in terms of total compensation for a year's work. This is stated to mean gross compensation whether in money or its equivalent. If part of the compensation is in non-monetary form, the part to be paid in money is to be reduced by the value placed on the non-monetary part.

A problem is thus created where it has been the practice, especially among the institutions, to pay fixed salaries in cash and to supplement them by subsistence, lodging, laundry, medical serv-

ice, and the like. These amounts are just as much a part of the compensation of employees as the cash payments, because the employees concerned would otherwise have to provide them at their own expense.

The most objectionable element of this practice lies in the inconsistencies with which supplemental payments may be made. Employees of the same class being paid the same cash salary may, in varying locations, be entitled to 1, 2 or 3 meals a day, to dormitory or private rooms, or to full laundry and valet service. These variations, the cost of which is hidden in the operating expenses of the organization, constitute



unfair discrimination in that they have no relationship to the relative value of work performed. A schedule of values is needed to translate allowances into terms of the deductions that should be made from gross pay.

Conditions of Employment

Hours in City departments vary from 33 to 48, although the trend in private employment is to the 40-hour week.

Payment for overtime varies; some agencies pay none, others allow equal time off; some allow time and a half off or time and a half pay in cash. Supper allowances vary.

There is more consistency about vacations. Usually four weeks are granted salaried employees and three weeks to wage employees. Private employers commonly provide two weeks for all employees.

Practice as to sick leave is completely confused. While it varies widely among other employers, each such employer usually has a uniform policy.

Holidays allowed vary from zero in one to eleven in the majority of agencies. In addition, some allow one to seven religious holidays. Both practices are more liberal than those of private employers.

The consultants recommend City-wide standardization of all these practices and that the standard conditions established be closely related to the prevailing practice of progressive and liberal-minded employers in the metropolitan area.

Cost and Effects of Adopting Proposed Scales

The immediate cost depends entirely upon how the transition is made.

Adjustments up to the minimum

would cost \$17,417,000, less the values given to maintenance in these classes.

For positions now falling within the suggested ranges but not yet at one of the step rates, there is no compelling reason for immediate adjustment to a step rate. However, if municipal finances permit, it is recommended that all irregular rates be eliminated promptly by increases to the next higher step rates. This would cost approximately \$2,156,000, less the values given to maintenance in those classes.

In the case of incumbents whose salaries are now above the proposed maximum of the scale for the class of their positions, the City's policy should be to continue such payments but grant the incumbents no more increases unless they are promoted. As replacements are made at new starting rates, savings would be approximately \$5,089,000 eventually.

The cost of installing the plan can be tabulated as follows:\*

Cost of raising to minimums .....	\$17,417,000
Cost of raising to step rates .....	2,156,000
Total including value of maintenance.....	\$19,573,000
Less estimated equivalent value of maintenance .....	9,000,000
Net cost .....	\$10,573,000
Less eventual savings by elimination of over-maximum pay .....	5,089,000
Net eventual annual cost .....	\$ 5,484,000

The net effect of the pay plan proposed herein would be to provide an over-all increase of about 5 percent in the total payroll for the positions covered.

If a full additional increment within the scale be granted immediately to all

\*ED. NOTE: These figures differ slightly from the estimates given on page 56 of the printed Report. They are the result of recomputations made by Griffenhagen & Associates based on a run of punch cards not available when their original Report was submitted.



positions under the maximum on which the effect of other adjustments would be to provide less than a full increment, the cost would be approximately \$5,020,000.

Forty-five percent of the 86,000 positions covered were found to be paid below the suggested minimums, 40 percent between the minimums and maximums, and 15 percent above the maximums.

The net annual increase under the proposed plan would amount to about \$331\* on the average for each position now below the suggested minimums.

### **Relation of Pay Scales to Cost-of-Living**

If the average pay for a group of positions in the 1940-41 budget is compared to the same positions in the 1951-52 budget, the percent of pay increases will be found to range from one percent to 90 percent. The percent of increase in the same period in the Consumers' Price Index has been 79 percent. In the group analyzed only two positions had had increases exceeding the Consumers' Price Index increase, i.e., watchman, 90 percent, and phone operator, 83 percent. The next nearest are: social investigator, 76 percent; clerk, 75 percent; and foreman, 65 percent. Others were well below the 79 percent Consumers' Price Index increase. With certain exceptions the lower paid occupations have generally improved their positions considerably more than the higher paid occupations.

The increases proposed are designed primarily to bring pay scales into proper balance in the light of present inequities. The effects of the increases are not the same for all classes of

positions and comparisons of increases in the cost-of-living with the increases proposed for specific classes are not very significant.

### **Administration of Plans and Needed Legislation**

It is proposed that a Bureau of Personnel Administration be established in the Office of the Mayor and be headed by a Director of Personnel Administration. This bureau should be of the level and status of the Bureau of the Budget. It would have five main functions:

(a) Advising the Mayor and the Board of Estimate on all City-wide problems having to do with the well-being, morale, compensation, and working conditions of employees of the City government.

(b) Maintaining and administering the official classification plan.

(c) Maintaining and administering the official compensation plan.

(d) Recommending measures necessary to standardize employment conditions among the various agencies and classes of employment.

(e) Conducting continuous research into economic conditions and conditions of employment particularly in regard to the compensation plan and standards of employment, and reporting on these to the Mayor and Board of Estimate.

It is further proposed that a nine-member Personnel Policy Council be established to act in an advisory capacity to the Bureau of Personnel Administration and be attached to it. The council should be made up of public, employee, and City agency representatives.

The choice of where this bureau should be lodged is narrowed to three places: (1) the Bureau of the Budget; (2) the Municipal Civil Service Commission; (3) the Mayor's Office. In making the determination, considera-

\*ED. NOTE: This figure corrected from the figure \$131 on page 57 of the published Report.



tion should be given to certain questions, as follows:

(a) Should the budget agency do the classifying and maintain the plan?

(b) Should the recruiting agency (Municipal Civil Service Commission) do it?

(c) Should they continue to combine their efforts in the very unsatisfactory and clumsy way they are now doing?

(d) Or should a new agency standing on the same level as each of them take the responsibility and draw on both the agencies to the extent that they have the information and the interest and the basic data and then make the results of its decisions available to both agencies?

The classification function is given most frequently to the personnel agency because of the close relationship between the recruiting process and the classification plan. But there are also valid reasons for putting the function in the budget agency because the cataloging and the terminology and the definitions of scope of work are of great importance in the budget-making process and of even greater importance in the appropriation process.

The Municipal Civil Service Commission has a unit charged with some responsibility for classification, but it is a very minor unit buried in the lower echelon of its examining division. It has only one position showing duties pertaining to classification and these include maintaining files of examination notices.

The Bureau of the Budget has been greatly handicapped by lack of adequate definitions of titles. It has not had any basis for the determination of the applicability of a title to any particular position. There has been no explicit authority given to it to work

up a classification of its own and it has felt no particular responsibility to do so. It has not had the use of an across-the-board compensation policy and has felt no responsibility for preparing one, though it has felt a keen responsibility for the rate of growth of the City budget.

The argument for an agency standing on the same level as the Municipal Civil Service Commission and Budget Bureau is that it will supply what the City has long lacked—an office that will give continuous, undivided attention to the broad, general top-level problems of personnel administration as distinguished from the recruiting activities of the Municipal Civil Service Commission.

It is proposed that the Bureau of Personnel Administration report periodically to the Board of Estimate on the continuing appropriateness of general pay levels and that the Municipal Civil Service Commission should similarly report its opinion of appropriateness of pay levels for specific classes of positions.

Distinct from the Personnel Policy Council, it is here proposed that there be an Appeals Board within the Mayor's Office, charged with the duty of hearing and deciding appeals of individual employees from the allocation of their positions to classes, and also the objections or recommendations of agency heads. This would operate chiefly during the transition period of putting the proposed classification and compensation plans into effect.

**Problem of Effecting Recommendations**—If the classification function is to be assigned to any agency other than the Municipal Civil Service Commission, it will be necessary to amend the section of the State Civil Service Law applying



to New York City and take out any provisions giving the Municipal Civil Service Commission position-classification duties, and possibly put in provisions to make it clear that it is to use the classification promulgated by the designated City agency as the basis for its specifications and examinations.

No matter to which agency the classification function is assigned, certain provisions of the City Charter will have to be altered: (a) assigning the classification functions; (b) inserting positive provisions defining the responsibilities and procedures of the agency that is chosen to have the function; (c) tightening up obscure language that now creates confusion; (d) changing the Charter provision which now operates so that the grade of a position can be raised by increasing the pay of the person holding the position; and (e) repealing Section 817 of the Charter which gives the Municipal Civil Service Commission the power to approve and certify titles for new positions, provided this function is given to a Bureau of Personnel Administration as the Report recommends.

Changes will also have to be made in local laws, which are subject to the approval of the Board of Estimate, relating to qualifications, number, method of selection, compensation, and the like of officers and employees of the City or any agency thereof.

### **Adoption of Plan**

The other steps necessary for the adoption of the plan are:

(1) Creation of a "high level" hearings board to hear those who have comments to make, questions to ask, or objections to raise to the plan; the findings of such board to be reported to the Mayor or the Board of Management Improvement.

(2) Presentation of classification and compensation plans by the Mayor to City Council and Board of Estimate for action.

(3) Action by the Municipal Civil Service Commission to apply the classification and compensation plans immediately without waiting for the enabling legislation.

### **Essentials of Personnel Administration**

The essential instruments of personnel administration are:

(1) A classification plan providing, among other things, a significant occupational terminology. The present consultants suggest that the Personnel Director depend upon the Bureau of the Budget for the needed position-classification service, since that Bureau has a field staff and needs a "duties classification" of positions for its own purposes. This same classification service would be utilized by the Municipal Civil Service Commission.

(2) A compensation plan providing like pay for like work and suitable differences in pay for differences in work. The maintenance and application of such a plan will be the Personnel Director's most important function.

(3) A code of standard employment terms and working conditions to establish a City-wide policy where no special departmental or operating conditions dictate special treatment.

(4) An effective service rating or performance evaluation system by which the performance of an individual may be compared with the performance of others and with established standards, such system to be developed by the Director of Personnel Administration to fit the duties of the respective classes of positions. Ratings of personal attributes, educational history, and traits of character are not proper or safe criteria for recognition as to pay advance or promotion; the ratings or evaluation should have to do with the requirements of the work of the position.



(5) A well-planned manual of practical and effective procedures, techniques, forms, records, and regulations to govern essential employment processes common to all departments and agencies that will apply the tools of personnel administration throughout the City service. The proposed

manual obviously must reconcile and harmonize the requirements and practices of the Municipal Civil Service Commission with the needs of the financial authorities in meeting budgeting and payroll requirements and of the operating departments in conducting their internal affairs.

APPENDIX

LIST OF PROPOSED CLASSES OF POSITIONS\*  
SKILLED AND UNSKILLED LABOR VOCATIONAL CATEGORY

	Proposed Pay Scale	
	Minimum	Maximum
CUSTODIAL OCCUPATIONAL GROUP		
Check Room Attendant .....	\$ 1,900	\$ 2,500
School Custodial Executive D .....	7,550	8,850
DOMESTIC CRAFTS OCCUPATIONAL GROUP		
Hospital Helper .....	1,900	2,500
School Lunch Director** .....	8,850	10,400
BUILDING TRADES AND MECHANICAL CRAFTS OCCUPATIONAL GROUP		
Oiler .....	2,200	2,800
Auto Equipment Maintenance Director .....	8,200	9,625
MARINE OPERATIONS OCCUPATIONAL GROUP		
Deck Hand .....	2,800	3,400
Ferry Operations Director .....	7,000	8,200
SUNDRY SKILLED AND UNSKILLED LABOR OCCUPATIONAL GROUP		
Printers Helper .....	1,900	2,500
Sanitation Director .....	10,400	12,200**

SAFETY AND SERVICE INSPECTION VOCATIONAL CATEGORY

PURCHASED MATERIALS INSPECTING OCCUPATIONAL GROUP		
Materials Inspector .....	3,700	4,350
Materials Auditing Inspection Executive .....	6,450	7,550
FOOD AND DRUG INSPECTING OCCUPATIONAL GROUP		
Health Inspector A .....	3,700	4,350
Health Inspection Executive .....	7,000	8,200
BUILDING INSPECTING OCCUPATIONAL GROUP		
Housing Inspector A .....	3,400	4,000
School Building Inspection Executive .....	6,450	7,550

\*ED. NOTE: It is impossible to present here the complete list of proposed classes given in Vol. II of the Griffenhagen Report. However, to give the reader a picture of the classification and pay, we present here all Vocational

Categories and Occupational Groups, together with sample class titles from among the lowest and highest paid in each Occupational Group  
\*\*ED. NOTE: This title, or pay scale, was substituted by the consultants for that given in the original Report.



	Proposed Pay Scale	
	Minimum	Maximum
<b>SUNDRY SAFETY AND SERVICE INSPECTING OCCUPATIONAL GROUP</b>		
Gas Valve Inspector .....	2,500	3,100
Water Use Inspection Executive .....	5,975	7,000
<b>ENGINEERING AND ARCHITECTURAL VOCATIONAL CATEGORY</b>		
<b>ENGINEERING AID OCCUPATIONAL GROUP</b>		
Engineering Aid .....	3,700	4,350
Radio Station Technical Supervisor .....	5,100	5,975
<b>CIVIL ENGINEERING OCCUPATIONAL GROUP</b>		
Assistant Civil Engineer A .....	4,350	5,100
Civil Engineering Director C .....	13,250	15,500
<b>ARCHITECTURAL OCCUPATIONAL GROUP</b>		
Assistant Architect A .....	4,350	5,100
Architectural Director .....	13,250	15,500
<b>ELECTRICAL ENGINEERING OCCUPATIONAL GROUP</b>		
Assistant Electrical Engineer A .....	4,350	5,100
Senior Electrical Engineer B .....	9,625	11,300
<b>MECHANICAL ENGINEERING OCCUPATIONAL GROUP</b>		
Assistant Mechanical Engineer A .....	4,350	5,100
Mechanical Engineering Director .....	11,300	13,250
<b>SUNDRY ENGINEERING AND ARCHITECTURAL OCCUPATIONAL GROUP</b>		
Assistant Landscape Architect A* .....	4,350	5,100
Chief Engineer, Board of Estimate .....	15,500	18,050
<b>PHYSICAL AND NATURAL SCIENCE VOCATIONAL CATEGORY</b>		
<b>BACTERIOLOGY OCCUPATIONAL GROUP</b>		
Bacteriologist A .....	3,700	4,350*
Bacteriology Supervisor .....	5,100	5,975*
<b>BIOLOGICAL SCIENCE OCCUPATIONAL GROUP</b>		
Horticulturist .....	3,700	4,350
Botanic Garden Director B .....	13,250	15,500
<b>CHEMISTRY OCCUPATIONAL GROUP</b>		
Chemist A .....	3,700	4,350
Chemistry Executive .....	7,000	8,200
<b>FOOD SCIENCE OCCUPATIONAL GROUP</b>		
Dietitian .....	3,400	4,000
Dietetics Co-ordinator C .....	6,450	7,550*
<b>PHYSICS OCCUPATIONAL GROUP</b>		
Physicist A .....	3,700	4,350
Physicist Supervisor .....	5,500	6,450
<b>LABORATORY OPERATING OCCUPATIONAL GROUP</b>		
Laboratory Helper A .....	2,200	2,800
Laboratory Executive, Water Purification .....	5,975	7,000
<b>SUNDRY PHYSICAL AND NATURAL SCIENCE OCCUPATIONAL GROUP</b>		
Science Research Assistant A .....	3,400	4,000
Geologist .....	5,975	7,000
<b>MEDICAL AND DENTAL VOCATIONAL CATEGORY</b>		
<b>HOSPITAL ATTENDING OCCUPATIONAL GROUP</b>		
Hospital Attendant .....	2,200	2,800
Mortuary Supervisor .....	4,350	5,100

\* ED. NOTE: This title, or pay scale, was substituted by the consultants for that given in the original Report.



	Proposed Pay Scale	
	Minimum	Maximum
<b>NURSING OCCUPATIONAL GROUP</b>		
Practical Nurse .....	2,500	3,100
Hospital Nursing Co-ordinator .....	7,550	8,850
<b>GENERAL MEDICAL OCCUPATIONAL GROUP</b>		
Intern .....	1,900	2,500
Medical Examining Executive .....	12,200	14,300
<b>SPECIALIZED MEDICAL OCCUPATIONAL GROUP</b>		
Psychology Intern .....	3,100	3,700
Medical Executive, Industrial Medicine .....	11,300	13,250
<b>AUXILIARY MEDICAL OCCUPATIONAL GROUP</b>		
Hospital Technician .....	2,500	3,100
Occupational Therapy Supervisor C .....	4,350	5,100
<b>PUBLIC HEALTH OCCUPATIONAL GROUP</b>		
Public Health Assistant .....	2,200	2,800
Public Health Officer—Executive D .....	11,300	13,250
<b>DENTAL OCCUPATIONAL GROUP</b>		
Dental Intern .....	1,900	2,500
Dental Executive C .....	9,625	11,300
<b>SUNDRY MEDICAL AND DENTAL OCCUPATIONAL GROUP</b>		
Pharmacist A .....	3,400	4,000
Hospital Administrator E .....	13,250	15,500
<b>PUBLIC WELFARE AND SAFETY VOCATIONAL CATEGORY</b>		
<b>SOCIAL SERVICE OCCUPATIONAL GROUP</b>		
Dormitory Parent .....	2,500	3,100
Welfare Executive Officer .....	10,400	12,200
<b>CORRECTION OCCUPATIONAL GROUP</b>		
Correction Officer .....	3,700	4,350
Correction Executive .....	7,550	8,850
<b>COURT OFFICER OCCUPATIONAL GROUP</b>		
Process Server A .....	3,100	3,700
Sheriff .....	11,300	13,250
<b>POLICE OCCUPATIONAL GROUP</b>		
Guard .....	2,500	3,100
Fingerprint Technical Supervisor B .....	4,700	5,500
<b>FIRE OCCUPATIONAL GROUP</b>		
Fire Alarm Dispatcher .....	3,400	4,000*
Fire Marshal Supervisor C .....	5,975	7,000
<b>PROBATION AND PAROLE OCCUPATIONAL GROUP</b>		
Parole Officer .....	3,700	4,350
Parole Supervisor C .....	5,975	7,000
<b>SUNDRY PUBLIC WELFARE AND SAFETY OCCUPATIONAL GROUP</b>		
Lifeguard .....	2,800	3,400*
Lifeguard Chief .....	3,400	4,000
<b>EDUCATION, INSTRUCTION, AND INFORMATION VOCATIONAL CATEGORY</b>		
<b>GENERAL INSTRUCTION OCCUPATIONAL GROUP</b>		
School Teacher, Institution .....	3,400	4,000
Teaching Supervisor, Institution .....	4,000	4,700

\* ED. NOTE: This title, or pay scale, was substituted by the consultants for that given in the original Report.



	Proposed Pay Scale	
	Minimum	Maximum
SPECIALIZED INSTRUCTION OCCUPATIONAL GROUP		
Instructor in Recreation, Swimming .....	3,100	3,700
Museum Education Director .....	9,625	11,300
LIBRARY AND OTHER CULTURAL OCCUPATIONAL GROUP		
Library Trainee .....	2,200	2,800
Director, Brooklyn Museum .....	13,250	15,500
RECREATIONAL OCCUPATIONAL GROUP		
Recreation Special Activity Leader .....	3,100	3,700
Park Recreation Director .....	7,550	8,850
PUBLICITY AND PUBLIC RELATIONS OCCUPATIONAL GROUP		
Editing Clerk .....	3,400	4,000
Fund Raising Director .....	11,300	13,250
COMMUNICATIVE ARTS OCCUPATIONAL GROUP		
Motion Picture Cameraman Assistant .....	2,500	3,100
Exhibit Technical Executive .....	6,450	7,550

SUNDRY PROFESSIONAL AND QUASI-PROFESSIONAL  
VOCATIONAL CATEGORY

ACTUARIAL AND STATISTICAL OCCUPATIONAL GROUP		
Actuarial Analyst A .....	3,700	4,350
Actuarial Consultant .....	18,050	20,950
FINANCIAL OCCUPATIONAL GROUP		
Accountant A .....	3,700	4,350
Fiscal Officer C .....	14,300	16,700
LEGAL OCCUPATIONAL GROUP		
Attorney A .....	4,350	5,100
Transportation Torts Counsel .....	13,250	15,500
PERSONNEL AND LABOR RELATIONS OCCUPATIONAL GROUP		
Personnel Counselor .....	3,700	4,350
Labor Relations Officer .....	9,625	11,300
MISCELLANEOUS OCCUPATIONAL GROUP		
Buyer Aid .....	3,100	3,700
Executive Director, Hospital .....	18,050	20,950

CLERICAL VOCATIONAL CATEGORY

MESSENGER OCCUPATIONAL GROUP		
Messenger A .....	1,900	2,500
Messenger B .....	2,200	2,800
OFFICE MACHINES OPERATION OCCUPATIONAL GROUP		
Office Appliance Operator A .....	2,200	2,800
Tabulating Machine Operating Executive, IBM .....	5,100	5,975
TYPING AND STENOGRAPHIC GROUP		
Clerk Typist A .....	2,200	2,800
Court Reporter .....	4,700	5,500
FINANCIAL CLERICAL OCCUPATIONAL GROUP		
Ticket Seller .....	1,900	2,500
Auditorium Manager B .....	4,700	5,500
PURCHASING AND STORES OCCUPATIONAL GROUP		
Stock Clerk A .....	2,200	2,800
Storekeeper D .....	4,700	5,500



	Proposed Pay Scale	
	Minimum	Maximum
COURT AND LEGAL CLERICAL OCCUPATIONAL GROUP		
Court Attendant A .....	2,800	3,400
Investigations Executive .....	6,450	7,550
LIBRARY CLERICAL OCCUPATIONAL GROUP		
Library Page .....	1,900	2,500
Library Technical Assistant .....	3,400	4,000
SUNDRY CLERICAL OCCUPATIONAL GROUP		
Clerk A .....	2,200	2,800
Clerical Executive C .....	7,000	8,200

SECTION 2

ANALYSIS OF COMPENSATION

By

LYLE C. FITCH

Beginning in July, 1943, the City has granted a number of general wage increases. In addition, many employees have received increments under the pay plans applicable to particular services, and many have received individual increases in addition to the general increases. The uniformed forces, teachers, and a few other groups have received special increases. The increases have been granted in response to the exigencies, including political exigencies, of the moment, with little attention to the requirements of an equitable and practicable wage-salary structure. The structure has become more and more distorted, and many employees have grown increasingly discontented.

The Griffenhagen Report (which does not cover teachers, the uniformed forces, transit workers, or the skilled labor services) proposes drastic revisions in the wage-salary structure. The most important aspects of the proposal are those redefining the relation of positions to each other and establishing a framework within which increases can be related to the work that employees are actually doing.

The Mayor, in submitting the 1952-53 budget, proposed another round of wage increases, since adopted. But again, the increases bear no relation to work done and do little to remedy the inequities of the existing wage structure.

Although one of the main topics of this Report is the relationship between wage and salary increases and cost-of-

Digest from "Compensation of New York City Employees," by Lyle C. Fitch, June 3, 1952.



living increases in the past decade, the present Report should not be interpreted as pointing to the conclusion that the present wage-salary structure should be based primarily on the cost-of-living changes during the war and post-war period. This is because the relation of wages and salaries paid in the market for different occupations may have changed greatly. Moreover, the City's compensation structure before the war may have been inequitable, in which case basing all wage and salary increases upon increases in living costs would only perpetuate the inequities.

It is difficult to analyze the changes in pay for many jobs because of the unreliability of job titles. Work done, in many cases, has little or no relation to the title of the individual doing the work. Much of the typing in the Tax Department, for example, is done by persons bearing the title of junior assessor or clerk. Some of the legal work in the Welfare Department is performed by "social investigators." It is pointless to attempt to measure changes in the salaries of clerks from one period to another, since that title covers a great many kinds of work and a wide range of salaries. This situation has been worsened by the practice of giving wage increases by promoting or upgrading individuals who continue doing the same work as before. Moreover, the duties associated with some positions have changed over time.

### **Changes in Income and Buying Power**

Personal income payments per capita in the United States increased by 175 percent between 1940 and 1951. But how much of this increase constituted real buying power after allowing for higher taxes and inflation? Per capita personal income minus tax and nontax payments to governments (consumer

disposable income) was 33 percent higher in 1951 than in 1940; in other words, the average consumer in 1951, after paying his taxes, could purchase one-third more in 1940 (after allowing for changes in the price level).

There are no precisely comparable data for New York State and New York City. Personal income payments in New York State (a measure slightly different in concept from that of personal income in the United States, used in the preceding paragraph) increased by an estimated 137 percent from 1940 to 1951. The writer estimates that this amounts to an increase of purchasing power, after taxes, of from 15 to 20 percent.

Wages and salaries in New York City private employment covered by unemployment insurance have increased somewhat less—122 percent between 1940 and the first half of 1951. This probably represents increased purchasing power, after taxes, of about 10 to 15 percent.

Clerical and other white-collar employees, however, have done less well. The salaries of the New York City employees in finance, insurance, and real estate rose on the average by only 97 percent between 1940 and the first half of 1951. Increases of wages and salaries of other major groups in New York City include: manufacturing—125 percent; trade—131 percent; services—115 percent; and construction—153 percent. (All these figures are for employment covered by unemployment insurance.) Table I shows the increases in average salaries of various groups of private employees from 1940 to 1951, and of City employees from 1940-41 to 1952-53, assuming the raises proposed for the 1952-53 budget are adopted.



TABLE I  
INCREASES IN AVERAGE NEW YORK CITY WAGES AND SALARIES

	1940-41	1952-53	Percentage Increase
<b>Municipal Employees</b>			
All employees <sup>1</sup> .....	2,400	4,030	68
Police and fire .....	2,927	4,824	65
Teachers .....	3,527	5,478	55
Employees other than police, fire, and teachers .....	1,700	3,300	94
<b>Private Employees</b>			
	1940	1951	
<b>Average wages and salaries in covered employment:<sup>2</sup></b>			
All industries .....	1,707	3,785	122
Manufacturing .....	1,594	3,583	125
Trade .....	1,720	3,970	131
Service .....	1,642	3,537	115
Construction .....	1,750	4,434	153
Finance, insurance, and real estate .....	1,880	3,709	97

<sup>1</sup> Transit workers are not included in any of the averages. Estimates are for the fiscal years indicated. Averages were obtained by dividing personal service appropriations by the number of positions budgeted. Data for employees other than teachers were obtained from "Fiscal Facts Concerning New York City" (Citizens Budget Commission), Volume 2, Tables 38 and 43, and from New York City budgets. Average teachers' salaries were computed directly from budgets. Salaries

shown for police and firemen are averages for the uniformed forces.  
<sup>2</sup> Figures are averages for the calendar year 1940 and the first six months of calendar 1951 (the latter were the latest data available when this Report was written). "Covered employment" is that covered by the unemployment insurance program. Source: "Handbook of New York Labor Statistics" (New York State Department of Labor; 1948), page 84, and information furnished by the New York State Department of Labor.

CITY POLICIES ON WAGE-SALARY ADJUSTMENTS

The main differences in compensation policy occur among the uniformed fire, police, and sanitation forces; teachers; skilled labor service which is paid "prevailing rates"; and between higher-bracket and lower-bracket jobs in the other services.

The general increases, which began in 1943, have had the effect of narrowing the difference between higher- and lower-paid jobs. Increases, for the most part, have been flat sums rather than percentage increases and have been limited to lower-bracket jobs; none of the general increases has affected salaries exceeding \$7,500 per year, except that those for 1952-53 would apply to salaries up to \$10,500. Moreover, the

regular increment system has applied only to the lowest-paid groups.

As previously noted, agencies have attempted to obtain salary increases by upgrading or promoting the individual filling a job, even though he continues doing the same work, rather than by increasing the compensation for the job itself. (Conversely, the Budget Bureau, to keep down expenses, often keeps individuals in their old titles at their old salaries after they have been given new jobs with increased responsibilities.) Such increases are facilitated by the fact that no upper limits are specified for salaries of positions in the ungraded service and in the top grades of the graded services.



Tables II, III, and IV list the general compensation adjustments for the major groups, except teachers, transit workers, and the skilled labor classes, in the war and postwar periods. Several facts stand out. First, jobs paying more than \$7,500 in 1940 received aggregate increases of less than one-third as much as did other jobs. Second, the lowest paying jobs received proportionately the greatest increases. Third, the increases

to the uniformed forces exceeded those to other employees.

General Increases, 1952-53 Budget

The 1952-53 executive budget allows for further increases to all employees, save teachers and transit workers, to be determined by the following formula (the formula is based on gross pay, including all previous increases) :

1st \$2,000 .....	12 percent
\$2,000-\$4,000 .....	6 percent
Over \$4,000 .....	5 percent

TABLE II

SALARY ADJUSTMENTS  
NEW YORK CITY EMPLOYEES

Excluding Education, Police, Fire, Transit, Sanitation, and Skilled Labor  
1940 through 1951  
(In dollars)

Graded Services:	6-1-43	1-1-44	6-1-45	6-1-46	1-1-47	6-1-48	3-1-50	Total
Increment <sup>2</sup>								
Below 2,400 basic.....	120 <sup>1</sup>	120		120	300	250	250	1,160
2,400-2,500 " .....	<sup>1</sup>	120	110	120	300	250	250	1,150+
Over 2,500 " .....		240	110	120	300	250	250	1,270
Top of Increment <sup>1</sup>								
Below 2,400 basic.....	120 <sup>1</sup>	120	120	120	300	250	250	1,280
2,400-2,500 " .....	<sup>1</sup>	120	110	120	300	250	250	1,150+
Over 2,500 " .....		240	110	120	300	250	250	1,270
Non-Increment								
Below 2,400 basic.....	120 <sup>1</sup>	120	120	120	300	250	250	1,280
2,400-2,500 " .....	<sup>1</sup>	120	110	120	300	250	250	1,150+
2,500-4,000 " .....		240	110	120	300	250	250	1,270
4,000-7,500 " .....		350			300	250	250	1,150
Over 7,500 " .....		350						350
Ungraded Services:								
Below 2,400 basic.....	180 <sup>1</sup>	120	120	120	300	250	250	1,340
2,400-2,500 " .....	<sup>1</sup>	120	110	120	300	250	250	1,150+
2,500-4,000 " .....		240	110	120	300	250	250	1,270
4,000-7,500 " .....		350			300	250	250	1,150
Over 7,500 " .....		350						350

NOTE: Salaries listed are those prevailing before July 1, 1943; these were essentially the same as those of 1940-41.

<sup>1</sup> Limited to amounts necessary to bring maximum to \$2,500 or amount listed, whichever was smaller. Provided minimum of \$1,200.

<sup>2</sup> Under the McCarthy increment law, adopted in 1937,

employees in most of the graded services entering service in grades paying less than \$1,800 received annual increments of \$120 until they reached the top of their grade. This provision was amended in 1942 to limit the number of increments to four. Because of the increase in base pay, that law is now obsolete. However, the system is still applied to employees corresponding to those originally covered.



The maximum increase is \$500. The increase applies only to salaries of \$10,500 and under, with the provision that no salary shall exceed \$10,500 by reason of the increase.

Increases to Particular Jobs

This analysis has been designed to avoid, so far as possible, the difficulties of comparison previously discussed. The titles of most of the jobs selected for analysis are fairly accurate and descriptive, and titles and the nature of the work done have changed little over the past decade. Finally, the jobs can be readily identified in the Griffenhagen reclassification.

TABLE III  
SALARY ADJUSTMENTS  
POLICE AND FIRE  
1940 through 1951

Date of Increase	
January 1, 1944 .....	\$ 420
July 1, 1946 .....	80
January 1, 1947 .....	400
January 1, 1948 .....	250
January 1, 1951 .....	250
Total .....	\$1,400

Stenographers and Typists

These are in the clerical service, most of them in grades 2, 3, and 4 (grade 1 has been abolished). Comparative salaries for the various grades of the clerical service are shown in Table V.

By comparison, the Griffenhagen\* proposed salary scales for the most common clerical positions are as follows:

Clerk-Typist A .....	\$2,200- \$2,800
Clerk-Typist B .....	2,800- 3,400
Clerk-Typist C .....	3,400- 4,000
Clerk-Stenographer A .....	\$2,500- \$3,100
Clerk-Stenographer B .....	3,100- 3,700
Clerk-Stenographer C .....	3,700- 4,350

\*ED. NOTE: Detailed comparisons of effects of various Griffenhagen analyses on specific jobs are not digested, because modifications will inevitably be made in that plan.

TABLE IV  
SALARY ADJUSTMENTS  
SANITATION WORKERS  
1940 through 1951

Date of Increase	Junior	Class B	Class C
July 1, 1943.....	\$ 180	\$ 180	\$ 180
January 1, 1944.....	100	100	100
July 1, 1945.....	80	80	80
July 1, 1946.....	80	80	80
January 1, 1947.....	120	480	520
July 1, 1948.....	250	250	250
July 1, 1949.....	250	250	250
March 1, 1951.....	250	250	250
Total .....	\$1,310	\$1,670	\$1,710

Comparisons of minimum and maximum salaries do not tell the whole story; data on *average* salaries for typing and stenographic work provide more information. For this study, analyses were made of the salaries listed for the title of stenographer in the Welfare, Purchases, and Tax Departments, and for the title of typist in the Welfare and Purchases Departments. These comparisons are shown in Table VI. (The Welfare Department is large and relatively new; the other two are small old-line departments.) The analyses do not cover all typing and stenographic work because some work is done by persons with other titles, notably clerks. Finally, some persons with the titles of stenographer or typist may be working out of title.

Table VI also shows comparisons for several other titles.

TABLE V  
SALARY ADJUSTMENTS, CLERICAL SERVICE

Grades	1940-41	1951-52	Proposed for 1952-53
1	\$ 600- \$1,200	(abolished)	
2	1,201- 1,800	to \$3,080	to \$3,386
3	1,801- 2,400	\$3,081- 3,670	\$3,386- 4,011
4	2,401- 3,000	3,671- 4,270	4,011- 4,644
5	Over 3,000	over 4,270	over 4,644



TABLE VI  
SALARY ADJUSTMENTS,  
SPECIFIC POSITIONS

	High	Low	Average	Percentage Increase over 1940-41
Typists, Welfare Department				
1940-41 .....	\$1,740	\$ 960	\$1,174	
1951-52 .....	3,080	2,230	2,479	111
1952-53 .....			2,738	133
Typists, Purchases Department				
1940-41 .....	\$2,280	\$ 960	\$1,137	
1951-52 .....	3,670	2,230	2,626	131
1952-53 .....			2,903	155
Stenographers, Welfare Department				
1940-41 .....	\$2,340	\$1,200	\$1,579	
1951-52 .....	3,910	2,350	2,884	83
1952-53 .....			3,177	101
Stenographers, Purchases Department				
1940-41 .....	\$3,360	\$1,320	\$1,865	
1951-52 .....	4,630	2,410	3,362	80
1952-53 .....			3,684	98
Stenographers, Tax Department				
1940-41 .....	\$2,880	\$1,200	\$1,944	
1951-52 .....	3,910	2,350	3,189	64
1952-53 .....			3,500	80
Male Cleaners, Public Works Department				
1940-41 .....	\$1,920	\$1,200	\$1,334	
1951-52 .....	2,900	2,350	2,582	94
1952-53 .....			2,857	114
Correction Officers				
1940-41 .....	\$2,340	\$1,769	\$2,185	
1951-52 .....	4,250	3,250	3,938	80
1952-53 .....			4,294	97
Parole Officers				
1940-41 .....	\$2,340	\$1,680	\$2,143	
1951-52 .....	3,720	3,080	3,474	62
1952-53 .....			3,802	77
Probation Officers				
1940-41 .....	\$3,720	\$1,680	\$2,337	
1951-52 .....	4,770	2,960	3,345	43
1952-53 .....			3,666	57
Public Health Nurses				
1940-41 .....	\$2,340	\$1,500	\$2,022	
1951-52 .....	3,670	2,650	3,097	53
1952-53 .....			3,403	68
Budget Examiners				
1940-41 .....	\$7,000	\$3,120	\$4,457	
1951-52 <sup>1</sup> .....	7,650	4,600	5,930	33
1952-53 .....			6,387	43

<sup>1</sup> Includes only those positions now under the title of Budget Examiner which were reclassified as Budget Examiners A and B by the Griffenhagen survey.

	High	Low	Average	Percentage Increase over 1940-41
Tax Assessors				
1940-41 .....	\$6,250	\$3,000	\$3,625	
1951-52 <sup>1</sup> .....	7,250	4,271	5,197	43
1952-53 .....			5,617	55

<sup>1</sup> Includes all positions classified as Appraisers A and B by the Griffenhagen survey.

Engineers, Board of Estimate, Bureau of Engineering				
1940-41 <sup>1</sup> .....	\$10,000	\$3,120	\$4,430	
1951-52 <sup>1</sup> .....	15,000	4,391	6,288	42
1952-53 .....			6,762	53

<sup>1</sup> The top position is now classified as Senior Civil Engineer (Engineering Service, Grade 4). The corresponding Griffenhagen title is Chief Engineer, Board of Estimate, salary \$15,500-\$18,050. The lowest position included in the above averages is Assistant Civil Engineer (two positions of Junior Engineer not included). This position is classified by Griffenhagen as Assistant Civil Engineer A, salary: \$4,350 to \$5,100.

Engineers, Office of the Comptroller, Engineering Division				
1940-41 .....	\$ 6,500	\$3,120	\$3,802	
1951-52 .....	11,000	5,640	6,335	67
1952-53 .....			6,812	79

Uniformed Forces

The following data in Table VII show changes in the compensation of the uniformed forces (not covered by the Griffenhagen survey). Figures are for firemen and patrolmen, first class; this class includes roughly 90 percent of the firemen and 75 percent of the patrolmen.

TABLE VII  
SALARY ADJUSTMENTS,  
UNIFORMED FORCES

Salaries:	Firemen and Patrolmen, First Class	Sanitation Men Class B	Class C
1940-41 .....	\$3,000	\$1,920	\$2,040
1951-52 .....	4,400	3,673	3,833
1952-53 (proposed)....	4,784	3,925	4,095
Percent increase over 1940-41:			
1951-52 .....	47 <sup>1</sup>	91	88
1952-53 .....	59 <sup>1</sup>	104	101

<sup>1</sup> The purchasing power represented by these salaries has been increased by the City's assuming a larger share of the pension costs.



Teachers

Teachers' salaries are being raised gradually by the adoption of a plan following that outlined in the Meyer Committee report of 1951. The purpose of the plan was to raise average teachers' salaries to the purchasing power level of 1939. As adopted, the plan is to be put into effect over a four-year period, the last installment being included in the 1954-55 budget. Average salaries were to be increased by approximately 72 percent—the increase in the cost of living over 1939 as of November 1950, when the report was prepared. But the consumer price index since has risen; the index figure for Feb. 15, 1952 was 183.0.

Under the plan, the compensation of high school and elementary school teachers will be equalized, so that the plan as originally drafted gives high school teachers somewhat less, and elementary school teachers somewhat more, than the increase in the cost of living. Average salaries for 1951-52, shown in Table VIII, include the first installment increase; the average for 1952-53 includes the first two installment increases.

Nonwage Compensation

Increased compensation may take the form either of money or of increased

TABLE VIII  
SALARY ADJUSTMENTS, TEACHERS

		Percentage Increases over 1940-41
Salaries:	Average	
1940-41 .....	\$3,527	
1951-52 .....	5,244	49
1952-53 .....	5,478	55

nonwage perquisites, such as those mentioned. Pension contributions are for the most part on the same basis as in 1940-41, save for fire and police. A health insurance program has been added, to which the City this year will contribute \$3.6 million, equivalent to about 0.5 percent of the amounts allowed for personal service in the 1952-53 budget.

City employees still have considerably more time off than most employees in private industry. One wonders why City administrations have disposed to grant, and employees to accept, such benefits instead of increased wages, when the financial pressure on both the City and its employees has been so great. Probably neither side has always recognized clearly that nonwage benefits must be alternatives to increased wages. One even hears the argument that short working hours are necessary to enable employees to take outside work to supplement their City incomes!

WAGE-SALARY TRENDS SINCE 1925

Comparative trends of wages and salaries in private and municipal employment in New York City since 1925 were analyzed for the period covering the boom of the late 1920's, the depression of the 1930's, and the war and post-war inflation. An index of average weekly wages of production workers in manufacturing industries was used to represent compensation in private em-

ployment, since no other data covering the entire period are readily available. (There is no comparable measure, for example, of the compensation of white collar workers.)

Average weekly manufacturing wages reached a peak in 1929. They fell by 25 percent between 1929 and the low year of 1933, and in 1935 were 19 percent lower than in 1929. (In the follow-



ing, all comparisons refer to New York City; transit workers are not included in any of the averages.)

Average annual compensation of municipal employees reached a peak in 1931. The increase between 1925 and 1931 was due in large part to increases in teachers, police, and firemen's salaries. Average salaries of patrolmen and firemen, first class, for example, went from \$2,500 to \$3,000.

Average municipal compensation fell by only 11 percent between 1931 and 1935. But if salaries of Board of Education employees, policemen, and firemen are excluded from the average, the decline in this period comes to 22 percent.

The fall of average compensation in municipal employment after 1931 appears to be due to several factors. New employees were hired at low salaries and kept at those salaries for long periods. There were few pay raises or promotions anywhere along the line. (The McCarthy increment law, providing regular increases for lower-bracket employees, was not passed until 1937.) Beginning in 1933, many employees were required to take so-called payless furloughs, which for the most part amounted to salary cuts instead of unpaid vacations. Salaries of patrolmen and firemen, first class, for example, were reduced from \$3,000 to \$2,810. On the whole, however, policemen, firemen, and teachers appear to have been more successful than other employees in resisting wage cuts. Average teachers' salaries increased steadily throughout the period.

By 1940-41, manufacturing wages had again gone above 1925 levels, while average compensation of municipal workers other than police, fire, education, and transit was still below. As noted in preceding sections, during the

1940's wage-salary increases in manufacturing, and in other private employment as well, far outran increases in municipal wages and salaries. And beginning in 1940, when their wages and salaries were subjected to the Federal income tax, City workers lost an advantage they had previously enjoyed.

For several reasons, the advantages of municipal over private workers during the depression probably were greater than is indicated by the foregoing summary analysis. First, the comparisons are between average *weekly* wages in manufacturing and average *annual* compensation in City employment. Since manufacturing employment was much less steady, the discrepancy between annual earnings of the average manufacturing worker and the average City worker doubtless was considerably greater than the figures indicate. Second, City workers had the advantage of greater employment security; they were less likely to lose their jobs once they were on the City payroll. Third, "fringe benefits," such as pension plans, vacation time and sick leave, appear to have increased far more rapidly in municipal than in private employment during the 1920's and 1930's.

Analysis indicates, however, that during the 1930's as a whole, the average City worker other than police, fire and education fared little better than a steadily employed manufacturing worker.

It appears that the City's wage-salary policy, at least in the immediate future, cannot rest either on the assumption that the City workers can afford to lose now because they gained so heavily in the 1930's, or on the assumption that they will gain in the next depression.



TABLE IX

COMPARATIVE TRENDS OF POLICE AND FIRE SALARIES, NEW YORK CITY AND ALL CITIES OVER 100,000; 1924 and 1925 to 1951 AND 1952

Indexes of Average Police and Fire Salaries Selected Years			
New York City (1925 = 100)		Average, All Cities over 100,000 (1924 = 100)	
Year	Index	Year	Index
1925	100	1924	100
1929	102	1929	110
1931	123	1932	115
1935	122	1934	111
1937	126	1938	118
1940-41	123	1941	118
1946-47	132	1947	152
1951-52	187	1951	190
1952-53	202		

Sources: New York City; All Cities over 100,000, "Monthly Labor Review," January 1952, page 52.

From 1925 to 1951-52, police, fire and teachers' salaries rose more than those of other City employees. The increase in average compensation over the whole period was 187 percent for fire and police (figures include only the uniformed forces), and 188 percent for teachers. The increases proposed for the 1952 budget would bring the average increase in police and fire salaries to 202 percent. The actual increase in purchasing power is greater than these figures indicate, however, because of the increase in 1951 of the proportion of pension contributions made by the City.

A comparison of changes in New York City police and fire salaries with those of all cities over 100,000 (includ-

TABLE X

COMPARATIVE TRENDS OF TEACHERS' SALARIES, NEW YORK CITY AND ALL CITIES OVER 50,000; 1925 TO 1951 AND 1952

Indexes of Average Salaries, Selected Years			
New York City (1925 = 100)		Average, All Cities over 50,000 (1925 = 100)	
Year	Index	Year	Index
1925	100	1925	100
1929	109	1929	108
1931	112	1931	112
1935	120	1935	100
1937	122	1937	107
1940-41	126	1941	115
1946-47	138	1947	150
1951-52	188	1951	195
1952-53	196 <sup>1</sup>		

<sup>1</sup> With suggested increases.  
Sources: New York City Board of Education and Bureau of the Budget. All cities over 50,000, "Monthly Labor Review," February 1952, page 175.

ing New York) since the middle 1920's is shown in Table IX.

Between 1925 and 1940-41, New York City employees other than police, firemen, and teachers lost ground, relative to these three groups. Part of the lost ground was regained during the 1940's, when these "other employees" received relatively larger increases than did police, firemen, and teachers. But as already noted, the bulk of the increases in the 1940's went to the lowest-paid employees. Hence the employees who have advanced least since 1925 are those in the administrative, technical, and professional categories, outside of teaching.

Table X compares changes in New York teachers' salaries with those in all cities (including New York) over 50,000.

A WAGE-SALARY POLICY

The principal criterion must be "going rates" as determined in the employment market generally. Wherever feasible, the "going rates" used as a

standard should be those paid in private employment in the area, since these are

\*ED. NOTE: See footnote, p. ...



likely to reflect supply-demand conditions better and more promptly than rates paid by other governments, Federal, State or local. (Of course the City may desire to pay somewhat more than "going rates," at least in some categories, in order to attract the highest-caliber personnel obtainable. Because New York City is the largest single employer in the area, the level of City wages and salaries at any time doubtless is a considerable force in determining the "going rates" in many jobs.)

The use of "going rates" is limited by the fact that many municipal jobs have no counterparts in private employment. However, there are several other criteria for fixing compensation for such jobs.

First, salaries paid by other governments offer a standard of comparison for some types of jobs. At present, the standard is likely to be a minimum rather than an optimum, since government salaries in the past few years generally have tended to lag behind private salaries. Therefore, the City ordinarily should not allow its rates to fall below those paid by other governments.

Second, the market principle may be used indirectly by observing whether the rate set for any position attracts an adequate number of qualified applicants.

Third, compensation for many jobs having no direct counterparts in outside employment may be geared to jobs which do have such counterparts by using the "equal pay for equal work" principle. ("Equal work," of course, means work involving equivalent skill, training, and experience, as well as equal effort.) The principle should be used as widely as possible wherever it does not conflict too greatly with "going rates." The principle cannot be sustained, of course, where it conflicts with

established market rates. Such instances are frequently found; some professions, for example, command higher pay than others requiring equivalent training—M.D.'s commonly receive more than Ph.D's specializing in chemistry or economics, and so on.

Fourth, it may be desirable to fix compensation for some jobs at levels higher than would be called for by the considerations mentioned above, because of special circumstances or conditions. For instance, it may be desirable to pay employees in certain positions more than employees of equivalent training and experience if outside work is prohibited. Teachers' salaries might be fixed with reference to a budget allowing for books, travel, and other cultural amenities\*

The above criteria are not easily applied; in fact, fixing compensation scales is one of the most difficult problems of public administration. But the City service has gotten into its present situation because none of the criteria have been consistently applied.

### **Adjustments for Living-Cost and Other Economic Changes**

Once the initial compensation plan is established, the next task is to provide for systematic and regular changes to

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\*The problem of setting teachers' salaries is particularly difficult, because of the lack of criteria. "Going rates" are less significant than in other occupations because the City itself is by far the largest employer in the country and presumably is the leading force in establishing "going rates." Nor can the amounts necessary to attract qualified employees be relied upon; teachers' qualifications comprise many factors, some having little to do with monetary inducements, and persons desiring to teach may be willing to work for salaries which will not enable them to maintain desirable professional or cultural standards. Teaching is not sufficiently like any other occupation to apply the "equal pay for equal work" principle. Hence the idea of a budget providing for adequate professional and cultural standards may be the best solution.



correct any errors in the original plan, and to reflect developments in the economy at large, such as inflation or deflation, productivity increases, and other factors influencing wage-salary levels. It will also be necessary to revise relationships within the wage-salary structure to reflect changing market conditions for different types of skills, changing levels of education, training and skill required for particular jobs, and conditions peculiar to certain agencies or certain occupations, and the like.

In the past twenty-five years, changing living costs have been one of the main causes of the obsolescence of compensation plans. A number of cities now attempt to protect their employees by granting automatic adjustments for living-cost changes. But few, if any, provide for changes to reflect interoccupational shifts of the type mentioned above.

A possible procedure for making adjustments would be to tie municipal wages and salaries to a wage-salary index (i. e., an index reflecting average market price for a large number of jobs), changing municipal compensation with changes in the index. However, if the compensation for *each* job were changed according to a wage-salary index encompassing a large number of jobs, there would be great danger of distorting the compensation structure. For example, in a given period the compensation of engineers, nurses, stenographers, and power shovel operators, as determined in the market, may change at different rates—power shovel operators' wages may increase twice as rapidly as nurses' salaries. If the compensation of municipal employees in these four categories were changed according to an index reflecting a general "average" of all of them, the City

would probably attract more nurses than it needed, but might not be able to hire any power shovel operators.

Of course, it might be possible to tie the compensation of each such job to the pay of a job which did have a private-employment counterpart, thus creating groups of municipal jobs, each tied to the compensation of a "key" job. But this would lead to endless disputes. It would be difficult to convince employees in the groups which progressed less rapidly of the justice of any such system. Moreover, the "going rates" for any given occupation vary somewhat from industry to industry and from firm to firm.

Living costs are a better basis for interim wage-salary adjustments but should be supplemented by periodic reviews of the whole compensation structure.

### **Living-Cost Adjustments in Private Employment**

Escalator clauses tying wages to cost-of-living fluctuations are now included in private employment wage contracts covering at least 3,000,000 employees. These include approximately a quarter of a million office and other salaried personnel. The index most commonly used is the Bureau of Labor Statistics consumer price index, either the index for the whole nation or for a particular city. The base month is usually that in which the agreement becomes effective, or some other specified month; some agreements provide for an average of several monthly figures to eliminate seasonal or random influences.

### **Living-Cost Adjustments in Municipal Employment**

St. Paul, Minnesota, was the first American city to use an automatic cost-



of-living adjustment. This plan, one of the most elaborate in use, provides for diminishing percentage increments: base salaries up to approximately \$1,260 are entitled to 100 percent of the percentage change in the living cost index (a straight proportional adjustment); higher salaries receive progressively diminishing percentages.

The St. Paul plan was adopted in 1922. In the 1940's, a number of other cities and at least one county adopted such plans, and they are now used by over twenty local governments.\* All the plans are tied to consumer price indexes, either the national index, the index of the city itself if one exists, or the index of a nearby city. Some plans call for proportional changes (i. e., those for which the percentage change in compensation equals the percentage change in living costs), in the first \$1,200, or other specified amount of each employee's base pay. For example, the Dearborn plan grants proportional increases (and decreases) on the first \$3,000 of annual pay; Brookline, on the first \$1,600; and Colorado Springs, on the first \$1,200. Other cities provide flat-rate changes of specified amounts for each change of a designated number of points in the consumer price index.

So far as could be ascertained, none of the city plans grants proportional adjustments to all employees, which would give them all the same purchasing power (except for income taxes) as in the base period. High-paid employees occasionally receive larger dollar adjustments than lower-paid, per unit change in the consumer price index.

\*Including Milwaukee; Madison; Toledo; Duluth; Portland (Ore.); Colorado Springs; Brookline (Mass.); Jackson, Saginaw, and Dearborn (Mich.); Burbank; Phoenix; Wichita; and Ramsay County (home county of St. Paul). Columbus and San Diego adopted plans but later abandoned them. The plans, of course, vary in detail.

but the higher-salary adjustments are smaller, expressed as percentages of base pay, in all the plans reviewed.

This means that as the cost of living increases, the purchasing power of the higher-salary ranges declines, both absolutely and relative to that of the lower-salary ranges.

Most of the plans call for annual adjustments; but Madison makes semi-annual adjustments; Whitefish Bay (Wisc.), quarterly adjustments; and Shorewood (Wisc.) and Brookline, monthly adjustments.

To save the cost of making minor changes, the plans usually provide for no salary adjustment unless the consumer price index changes by at least 2 to 5 points. St. Paul and Portland specify 2-point changes, for example, and Jackson (Mich.) a 5-point change, before making salary adjustments. (Reports of the plans tend to confuse point changes in the consumer price index with percentage changes. A change of 5 points in the index, for instance, from 180 to 185 (1935-39 equals 100), is frequently reported as a 5-percent change; actually it is a 2.8 percent change. Where reports mention percentage changes it was assumed they mean point changes, but some of the figures cited may be in error because of this ambiguity.)

Some plans also set limits on the increases or decreases that will be made in any one year. The maximum adjustment allowed by Madison in a year, for example, is that corresponding to a 10-point change in the consumer price index.

### **A Living-Cost Adjustment for New York City Employees**

*Any plan for an automatic living-cost adjustment should be added to, not used*



*in place of, the proposed classification and compensation plan.* And it should be supplemented by periodic reviews of the whole structure to correct inequities and keep compensation in line with "going rates." Many of the cities already mentioned adopted cost-of-living adjustments as a means of keeping recently established classification and compensation plans up-to-date. But none of them provide for regular reviews.

An escalator clause in the City's wage-salary structure might provide for annual or quarterly adjustments (monthly adjustments are ruled out because of the large amount of bookkeeping involved).

Annual increments would be added to base pay (as established by the new plan) when the budget was made up. The easiest and most equitable method would be to increase compensation of all jobs (except those in the skilled labor services now governed by Section 220 of the State Labor Law) proportionately with the increase in the cost of living as measured by the Bureau of Labor Statistics consumer price index for New York City. The average index for the first quarter of the year might be used in determining cost-of-living increases if the data could be made available in time for budget-making purposes; failing that, adjustments could be based upon the average for December, January, and February. Or the adjustment could be based upon the index for a given month, for example, the increase of the figure for February over the February of the preceding year. To minimize the possibility of the adjustments being distorted by random fluctuations of the index, however, it probably would be advisable to base the adjustment on a three-month average. In any event,

salaries on the average would lag almost a year behind the cost of living (the midpoint of the fiscal year is December 31, and salaries of any fiscal year would be based on a quarter centered in January or February of the preceding fiscal year).

With this arrangement, it probably would be difficult to induce employees to accept decrements reflecting living cost decreases, since living-costs might reverse direction and begin rising before the end of the fiscal year in which salaries were decreased. For this reason, quarterly adjustments are to be preferred, if the computational and bookkeeping arrangements are not too costly. The budget for each year would contain an adjustment for salaries based on the consumer price index as of (say) February or March. The wage-salary level so determined would be used for the first quarter; an adjustment for the second quarter would be based on the index for May or June, and so on.

To avoid making adjustments for insignificant increases in living costs, wages and salaries might be changed 1 percent for every change of 2 points in the consumer price index. (Changes of less than two points would not require any adjustment.) As long as the cost of living index stayed below 200 (1935-39 = 100), the increase under this formula would be slightly less than proportional to the increase in living costs (the index was about 183 in June, 1952). (The formula would be revised as soon as the contemplated change in the consumer price index to a new base is made.)

Quarterly living-cost adjustments present no serious technical budgeting problem; the problem is somewhat analogous to that of providing for snow removal expenditures, which also can-



not be forecast. Appropriations for personal service costs could be based on the consumer price index as of February or March. Quarterly increments during the fiscal year could be financed by issuing budget notes. The amounts saved by quarterly decrements could be earmarked for the reduction of taxation in the following fiscal year.

**Proportional vs. Flat Adjustments**—The escalator clause proposed would keep salaries in approximately the same positions, relative to purchasing power. For example, assume that the initial salaries of two employees are \$3,000 and \$6,000, and that the consumer price index rises 2 percent. After adjustment, the two salaries will be \$3,060 and \$6,120 respectively. The first salary still has approximately half the purchasing power of the second, although the absolute difference between the two has increased from \$3,000 to \$3,060. (Actually, the second salary would have less than twice as much purchasing power as the first, because of the progressive income tax.)

The recommendation for proportional increases is based upon the proposition that cost-of-living adjustments should not be used to bring about interoccupational adjustments or other basic changes in the wage-salary structure. These should be based upon the criteria already mentioned and should be made only occasionally. If such a plan is deemed to be beyond the City's financial capacity, however, some system of progressively diminishing (relative) increments, like that used in St. Paul, is recommended.

Bookkeeping and other technical arrangements permitting, living-cost adjustments should be treated as regular compensation for purposes of the pension plans. The reason is that, from the

City's standpoint, benefits under the actuarial plans requiring employee contributions should be as large as possible. Otherwise, in the future, pensions may have to be increased by cost-of-living adjustments outside the actuarial plans, to the extent that the latter are inadequate.

### Objections to an Escalator Clause

The principal objection from City employees doubtless will come from those who favor flat rather than percentage increases. Otherwise the most serious objection from the employees' viewpoint appears to be that the cost-of-living increments would not be tailored to meet the needs of individual families. However, neither living-cost adjustments nor basic wage and salary payments can very well take account of individual family circumstances.

From the standpoint of the City, the objection to an escalator provision is that the burden of inflation on City finances would be greatly increased. Each 1 percent rise in living costs would increase personal service costs by more than \$7 million. The problem is particularly serious because of the inflexibility of the City's finances. Between 20 and 25 percent of City revenues comes from the Federal and State governments, sources over which the City has little control, and more than 40 percent comes from the real estate tax, the base of which has proven singularly unresponsive to inflationary pressures.

The issues, however, are likely to be essentially political rather than economic. Economic factors would limit the City's ability to pay cost-of-living increases only if the payments necessitated levying taxes which drove either individuals or business, or both, out of the City. Given a reasonable amount of



judgment in formulating tax programs, there is no reason why living-cost increases alone should precipitate a tax crisis (again, economically speaking), since there is increased income with which to pay increased taxes. Conversely, the City would benefit from wage-salary decrements when taxes and income fall.

From the standpoint of the whole economy, the most serious objection to living-cost adjustments is that they tend to increase inflationary pressure in periods of rising prices and promote deflation in slack periods. Also, they lessen the effectiveness of inflation as an instrument of defense-war finance (the effectiveness of inflation depends upon reducing the real purchasing power of private individuals and firms by raising prices, but real purchasing power will not be reduced if incomes generally rise as rapidly as prices). However, since inflation is the worst possible means of financing a defense-war program from the standpoint of equity, the fact that wage and other escalators reduce the effectiveness of inflation is not necessarily an argument against them. The government has more equitable means of reducing private purchasing power—taxes, voluntary loans from private individuals and firms other than banks, and, if necessary, compulsory loans. It can also use direct controls to allocate resources.

### **Productivity Increases**

Periodic wage increases for presumed increases in employee productivity have been incorporated in numerous wage contracts in private employment. The present GM-UAW contract, for example, provides an annual 4 cents per hour increase in base pay for productivity increases.

The concept of productivity is particularly difficult to apply to municipal employees because of the lack of data on output. In the absence of definite information, there is a considerable difference of opinion as to whether productivity of municipal employees (and that of government employees generally) has increased as much as productivity in the economy at large. (Productivity per man-hour in the whole economy is generally estimated to have increased by about 2.5 percent per year during the past several decades.)

City wage policies, however, should not be based on the assumption that productivity in City employment is markedly less than in private employment. If the City paid lower wages on the basis of such an assumption, continued low productivity would be assured because the City could not attract competent employees. And such a policy would be highly unfair to the employees themselves, since responsibility for low productivity must be charged partly to the City's wage policy in the past.

City employees should share in increased economic productivity, irrespective of whether productivity increases can be attributed specifically to them. However, regular productivity increments to municipal wages and salaries, such as those now granted production workers by General Motors and other firms, probably are not advisable. The productivity increment is a recent innovation with which there has been little experience.

### **Periodic Reviews of the Wage-Salary Structure**

The proposed living cost adjustments are designed to maintain the purchasing power of the wages and salaries com-



prising the City compensation structure, without changing the relative position within the structure of the compensation attaching to each job. As noted above, there is needed in addition a regularized procedure for making intrastructural adjustments for changing market conditions, changing levels of education, skill and training required for particular jobs, and so on.

It is recommended that this function be assigned to the Classification Unit of the Civil Service Commission proposed by the Formal Hearings Board.

A regular cost-of-living adjustment should obviate the need for most piecemeal adjustments. In any event, such adjustments should be held to a minimum because they tend to distort the whole structure unless made with great care.

Instead of continually patching up the system by piecemeal changes, the City should periodically review the whole compensation structure and make the changes indicated by the Classification and Compensation Bureau studies all at once. Such reviews would involve a large amount of work (though not nearly as much as that involved in setting up an entirely new classification and compensation plan), and should be scheduled not oftener than every five years. Once established, however, the period between reviews should be kept constant, so that employees may know definitely what to expect.

Such a system would relieve the Civil Service Commission and Budget Bureau of continuous pressure from the various employee organizations, who would prepare their cases for submission at the scheduled time. Their demands could be weighed against each other and fitted into a total picture. The effect of productivity increases and other factors

upon various occupations would be allowed for by taking into account market conditions, compensation in private and other public employment, and the other criteria mentioned. While there would be lags in making some type of adjustments, they probably would not be serious (emergencies can be handled by piecemeal changes).

### **Distortions\***

Interim living-cost adjustments to bridge the periods between the over-all reviews of the compensation structure might produce some distortion of the structure, vis-a-vis the market place, because, as stated, the *market* rates of wages and salaries of some occupations are likely to change less rapidly, and those of other occupations more rapidly, than living costs.

But the distortions produced by living-cost adjustments would not be serious. Adjustments would be made at the time of the over-all review (at five-year intervals). Occupations whose compensation had seriously gone ahead of the market by virtue of the automatic increase would receive no adjustment at the time of the over-all review, until such time as the market had caught up. Ordinarily, this should not take longer than five or ten years, since most salaries are affected not only by living-cost changes but also by productivity increases and other factors. However, in the long run, the City would probably save money.

Municipal salaries ordinarily least likely to keep pace with living costs and productivity changes are those of higher-echelon administrators, professional persons, and technicians. The

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\*ED. NOTE: These paragraphs were added by the author, elaborating a point implied but not stated in the Report as distributed.



standard of comparison for such jobs ordinarily is compensation paid by other governments; private salaries for comparable work are generally considerably higher than government salaries. Thus the automatic increases would keep such compensation in line with

the *market* but high vis-a-vis governmental employment, if the gap between government and private rates were narrowed from time to time, and the City were better able to compete with private firms for top-grade administrative, professional, and technical personnel.

CHANGES IN COMPENSATION OF TOP ADMINISTRATIVE POSITIONS

TABLE XI  
SALARY ADJUSTMENTS, TOP EXECUTIVE POSITIONS

Title	1940-41	1951-52	Percent Increase	1952-53 <sup>1</sup>	Percent Increase <sup>1</sup>
President of City Council .....	\$15,000	\$25,000	67		
Vice-Chairman of City Council .....	7,500	12,000	60		
Mayor .....	25,000	40,000	60		
Deputy Mayor .....	10,000	25,000	150		
Borough Presidents .....	15,000	25,000	67		
Commissioners of Borough Works .....	10,840	15,000	38		
Comptroller .....	20,000	30,000	50		
First Deputy Comptroller .....	12,500	15,000	20	\$17,500	40
Budget Director .....	12,000	17,500	46		
Assistant Budget Director .....	9,000	14,000	56		
Treasurer .....	10,000	15,000	50		
Deputy Treasurer .....	6,500	10,000	54	10,500	62
President, Tax Department .....	12,000	15,000	25		
Chief Assessor, Tax Department .....	7,000	8,150	16	9,100	30
Commissioner, Dept. of Licenses .....	10,000	15,000	50		
Corporation Counsel .....	17,500	25,000	43		
First Assistant Corporation Counsel .....	10,000	17,500	75		
Register, City Register .....	12,000	12,000	—		
Chairman, City Planning Commission .....	15,000	20,000	33		
City Planning Director .....	7,000	12,000	71		
Commissioner, Dept. of Public Works .....	12,000	17,500	46		
Deputy Commissioner, Dept. of Public Works .....	7,500	9,850	31	10,350	38
Director of Radio Communication .....	7,500	10,000	33	10,500	40
Chief Librarian, Brooklyn Library .....	10,000	10,000	—		
Superintendent of Schools .....	25,000	32,500	30		
Chief Librarian, Queens Library .....	6,890	9,000	31		
Deputy Supt. of Schools .....	12,500	16,250	30		
Presidents, City Colleges .....	18,000	18,000	—		
Park Commissioner .....	13,500	25,000	85		
Executive Officer, Dept. of Parks .....	8,000	13,500	69		
Police and Fire Commissioners .....	12,500	15,000	20		
Chief Engineer, Board of Transportation.....	15,000	20,000	33		
Commissioner of Marine and Aviation .....	15,000	15,000	—		
District Attorneys, New York County .....	20,000	28,000	40		
Chief Justice, City Court .....	18,000	21,000	17		
Chief Magistrate .....	13,000	15,000	15		

<sup>1</sup> Salaries shown only if increased over 1951-52.



As already noted, general increases have applied only to lower bracket salaries. Salaries of some top administrative and judicial positions have been raised by increases granted on an individual basis, but there has been no uniform policy in this respect. Table

XI shows the increase between 1940-41 and 1951-52, and the increases which would be effected by the proposals in the 1952-53 budget. The latter include both individual increases and increases effected by the proposed general increases applicable to salaries below \$10,500.

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### SECTION 3

## REPORT OF THE FORMAL HEARINGS BOARD ON THE GRIFFENHAGEN SURVEY

**(1) New Classification Demanded**—The employment system and the pay plan of New York City must be revised, so that salaries and wages may represent: equal pay for equal work; a fair living wage; work and pay standards on a level fairly comparable to those found in New York for other employers, public and private; “a prevailing rate of pay” for all trades serving the City on a basis comparable to those found in private industry provided they fall within the purview of Section 220 of the Labor Law; the development of a real career system in the service of the City, with a correspondence of titles and work; and a personnel management adequate to administer such a classification and pay plan for the future.

**(2) Griffenhagen As Starting Point** — The Report of Griffenhagen & Associa-

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Digest from “Report on the Formal Hearings on the Griffenhagen Survey”, a mimeographed Report of the Mayor’s Committee on Management Survey, May 26, 1952, by Thomas V. Tozzi, Chairman, Abraham D. Beame, and Luther Gulick.

cates cannot be enacted into law as it stands. Extensive and fundamental modifications must be made in the classification plan, in the pay plan, in the allocation of individuals, and in the administrative plan proposed.

**(3) Classification** — Many important changes must be made in the classification plans. In some classes the present classifications used by the City are preferable to those suggested by Griffenhagen; in others, State and Federal practice is superior; in still others, classes suggested by the recognized professional groups offer a still better basis.

**(4) Number of Classes**—Griffenhagen states that some 2,571 titles have been reduced to 1,327 classes. This is an extravagant claim, as the 2,571 titles referred to cover nearly 140,000 persons whereas their survey covered only about 86,000 persons. Griffenhagen has increased the number of classes in certain categories beyond the practice of the United States government or the State,



and beyond what is needed for good administration.

**(5) Class Definitions** — The general scheme of definitions recommended by Griffenhagen, though a good beginning, is not satisfactory for the City of New York. Certain of the specifications are not sufficiently definitive. The plan recommended has gone too far toward general and, at times, almost meaningless statements, particularly in view of the more meaningful definitions already available in State and Federal class specifications and even, in many instances, actually in use in the City.

The consultants have stated that the class definitions are not intended to be anything more than thumbnail sketches

to be used by the personnel administrator as a convenient short title for grouping positions into classes having common characteristics. They insist that the true definition ultimately arises in great detail from the positions which are thus classed together, so that, ultimately and after long use, the class titles become fully meaningful, as has been the case with the Federal and State systems.

We cannot agree with the consultants on this point. Class definitions for positions in City service must at the beginning be recognizable, not only by the personnel administrators but also by the employees and the departmental administrators.

## POSITION DESCRIPTIONS AND FIELD AUDITS

**(6) Field Audits**—Too much reliance was placed by the consultants on questionnaires, which were supposed to be filled out by the employees, and upon the checking of these "Position Descriptions" with the supervisory personnel. These questionnaires were not uniformly handled in spite of Griffenhagen's clear instructions. Too often the work description related narrowly to an individual's activities on a given day or week and excluded the broader range of work over a month or year. Many position descriptions were dictated by supervisory personnel. In many cases, the supervisors did not perform their part of the work intelligently, conscientiously, or promptly. Furthermore, Griffenhagen did not make enough direct, first-hand studies in the field to correct the errors.

**(7) Allocations**—The allocation of individuals to the new titles and classes is reported to contain many thousands

of cases which are inconsistent and inappropriate. The consultants insist that this must always be the case in any new classification scheme and point to their recommendations for appeals machinery as a corrective measure.

A great deal of criticism which has been directed at the Griffenhagen allocations arises from those who are in fact correctly handled by Griffenhagen. There are thousands of City employees who now hold high titles and pay grades who are in fact doing a much lower grade of work, and were therefore quite properly allocated to lower positions.

**(8) "Positions" vs Persons**—It must be understood that the classification plan presented by Griffenhagen, by definition, does not have built into it a recognition of the human factor. Under sound classification procedure, it is not the incumbents, but the duties and responsibilities of positions, which are classified. Human factors such as length of



service or seniority are recognized in the salary range and increment steps in the pay scales.

**(9) Career System** — The consultants state that the promotion ladders are implicit in the various job and professional series presented and that beyond this the promotion opportunities would normally be indicated by the personnel agency of the City. They suggested an "open" promotion policy under which anyone who can qualify for a promotion examination shall be permitted to apply. While the City employees want well-defined promotion ladders, with many choices named in advance, they generally insist on a "closed" system, which limits applicants to the next lower grade of the specific class.

This Board believes, along with civic associations, that the City should have a broad promotional policy, permitting promotions from one agency to another and extending eligibility for promotion to as many classes as consonant with good personnel practice.

**(10) Professional Certificates**—Various professional groups have criticized the failure to note among the requirements for specific positions those professional certificates required by law or custom in New York State, as for law, engineering, architecture, etc. The consultants contend that this is a matter of recruitment and does not belong in the class definitions, particularly as certification requirements change from time to time. We feel that it would be more satisfactory to specify the certificates required for given City work, certainly where the applicability of the State law is clear and appropriate.

**(11) Educational Standards**—Considerable criticism was voiced of the decrease in emphasis on educational standards in

many Griffenhagen statements of qualifications. In addition to elimination of certificates, educational requirements are frequently reduced from one to two years, advanced degrees are dropped as a requirement in certain categories, and the experience requirements are reduced by one to four years. In a few cases, however, higher standards than those now in use are suggested. The consultants insist that the standards they have recommended are adequate; that higher standards are optional with the examining and recruiting agency; and that higher requirements will automatically and needlessly push up salary rates.

We believe that there should be no reduction of formal educational standards now required, but that such standards may well be raised.

**(12) Unlimited Salary Grades** — The new classification recommendations have been attacked with particular vehemence by the 5th Grade Clerks and the Senior Engineers, who point out that they have qualified by competitive examination for positions which now have no top salary limits under which they may achieve higher responsibilities and pay, subject only to the action of administrative officers and the Board of Estimate. The consultants point to the great variety of duties in such classes which vary from clerical supervisory work to the most responsible administrative duties, or from advanced individual engineering work to the direction of large forces of engineers in important projects.

The Board believes that a strong case has been made for recognizing the present rights to promotion of individuals within these two and other comparable groups, without the imposition of further examination barriers.

**(13) Individual Rights**—The advancement and pay-increase opportunities of



many groups and individuals are adversely affected under the new titles and pay grades recommended by Griffenhagen. Sometimes a suggested title has less prestige than the present title, or than the title at appointment; or a new salary ceiling is lower than the ceiling to which the individual or the group was eligible; or promotion chances have been adversely affected by City-wide promotions in place of limitation to a single specialized service.

**(14) "Downgrading"**—A great deal of criticism of the Griffenhagen Report was offered under the heading of "downgrading." However, the word "downgrade" was applied indiscriminately to any and every type of modification of the position definition, qualifications, title, allocation, present or future salary possibilities, or working conditions, which were regarded as open to criticism.

**(15) Preserving Rights**—A number of witnesses presented methods of preserving the rights of individuals by placing certain ones on special lists, entitling them to consideration for promotion along lines now open to them without further examination. Griffenhagen has suggested that this be accomplished by a table of "equivalencies," as described in paragraph 17 below.

**(16) "Covering-In"** — In some cases, the new classes and pay suggested by Griffenhagen are higher than the titles and pay now received by certain individuals. It was urged that these individuals should be given the titles and the pay of the positions they are filling. However, the organized employee groups insisted that this would be unfair to others who are entitled to compete for these higher positions, and that automatic "covering-in" would confirm the "favored" employees in these positions

in violation of merit system principles. The professional groups pointed out also that many individuals would be covered-in to positions requiring professional licenses which they do not now possess. Griffenhagen suggests that such individuals be given the new pay rate, but that their titles be "provisional," until they can qualify, and that no changes in assignment since July 1, 1951, be recognized. It was also pointed out that it is not practical or desirable to give a new examination whenever a title is changed or a salary rate shifted.

**(17) "Equivalencies"**—Griffenhagen & Associates suggests that this problem be dealt with through the establishment of "equivalencies." This concept is well set forth in the following excerpt from the April 15 testimony of Mr. John Leavens:

With the passage of time, the personnel system in New York City has tended to become more concerned with the standing of the individual incumbent, as evidenced by the original Civil Service examination list from which he was certified, and less concerned with the duties and responsibilities of the individual position he holds. To a great extent, this condition has arisen out of the practice of "promoting" (to use a good word improperly as meaning "advancement in pay") individuals whose duties and responsibilities have *not* changed.

Each incumbent (unless a provisional) of a covered position has been certified by the Municipal Civil Service Commission from a list under a certain title and has status with respect to that "title." The "title" held by a City employee who has gained permanent status may or may not now have any valid relationship to the actual duties and responsibilities of the position which the employee now fills. Things have gotten out of kilter in the course of years.



The Municipal Civil Service Commission maintains a file of what are known as examination notices. These, in effect, are the specifications for the recruitment of candidates to fill positions which have been labeled with particular "titles." By comparing the recruitment specifications set forth in the examination notice and other data that describe the kind (i.e. class) of position that is represented by a present "title" with the class concepts for the proposed classes it will be possible to arrive at an equivalency between each present "title" and one or more of the proposed classes.

The equivalency of present "titles" with proposed classes should not be developed in the abstract. It should be said in the case of each title: "We examined candidates for work labeled with this title and, in our opinion, this has proved their fitness to do the work of those certain classes in the new classification plan that are listed as equivalent classes." Perhaps determinations of equivalencies should be reviewed by the appeals board.

The steps that should be taken by the agency charged with putting the classification and pay plans into effect (including the appeals board), are, in our opinion, somewhat as follows:

(1) Clear and approve the allocation of each position to its class in the proposed classification plan. In this process, the appeals board should hear and determine appeals of individuals on any matters pertaining to classification or the allocation of positions to new classes, but not on questions of equivalency.

As this process is completed, agency by agency and class by class, the ultimate result will be a complete and official inventory of the positions in each agency.

(2) In dealing with the Civil Service status and rights of individual incumbents, it is suggested that a determination be made as to whether the classification as indicated by the

present Civil Service title of the employee and the proposed class for his position are equivalent or not and, if they are not, what proposed class or classes in the classification plan *are* equivalent to the present Civil Service title. This determination should be made agency by agency, class by class, and position by position. Three principal types of situations will be found to exist and they should be handled as follows:

(a) If the employee has Civil Service status considered to be equivalent to status in the class proposed for the position he occupies, the employee should officially be certified as entitled to that position, retroactive to the date fixed for the adoption of the plans.

(b) If the employee has Civil Service status equivalent to a class of *higher* rank than that proposed for the position he occupies, he should remain provisionally, without reduction in rate of pay, in the proposed class to which his position has been allocated. However, his name should be placed on a reinstatement list or lists showing that he is eligible for appointment in any agency, in order of his entrance seniority and without further examination, to fill a vacancy in any proposed class equivalent to that in which he has status.

(c) If it is determined that the employee has Civil Service status equivalent to a class of *lower* rank than that proposed for the position he occupies, the agency should give him provisional appointment status in the class to which his position has been allocated, pending competitive examination.

The Formal Hearings Board believes that the principle of equivalency is an excellent one. Persons having rights to higher positions but allocated to one lower than such right shall be first considered for any higher position occupied by persons not entitled to such higher position. Such reassignments



must be handled before a promotion test is initiated.

**(18) Pay Plan and Rates** — The employees insisted that many categories of pay as proposed are below decent living standards, are less than salaries and wages paid for comparable public and private positions, have not kept up with changes in the cost of living, and are grossly unfair as between the various classes and grades. The professional associations insist that the pay scales do not fit present conditions in the professions or the technical qualifications required. The administrators insist that it is difficult to fill, or keep filled, the positions allowed them with the pay rates specified in many categories. In their view the Griffenhagen scales, though somewhat better, are still inadequate. The civic agencies in general endorsed the general level of pay rates recommended, but recognized that costs have risen since mid-1951 when Griffenhagen completed their wage scales, and that some upward revisions are, therefore, in order.

Increase in the cost of living index of the BLS for New York City from July, 1951, to February 15, 1952, was shown to be only 1 percent, the index having risen from 181.2 to 183. Higher figures presented to us at the hearings were national averages, not New York City averages.

Griffenhagen feels that some such change is justified, but that it should be made for the entire schedule so that the relationships between grades may not be altered. The Federal government, which employs 146,000 persons in the metropolitan area of New York, increased the salaries as of July 1, 1951, from \$300 to \$800 and the State of New York adopted an increase of 6 percent. These increases were made after the

Griffenhagen comparative information was gathered. It is to be noted that on July 1, 1952, the City proposes to adjust salaries, based upon a graduated percentage plan.

**(19) Comparative Salary Information** — Various employees groups asked for information as to the names of the governmental and commercial enterprises from which Griffenhagen gathered comparable wage and salary information. Griffenhagen presented the following list, explaining that the detailed facts for each company were gathered under the promise that the material would be used only in summary form, without identification of specific cases:

Comparative pay data were gathered from the Federal government, the State of New York, and other public jurisdictions in the northeastern United States, including the states of Connecticut, New Jersey, Pennsylvania, and Maryland, and the cities of Boston, Buffalo, Philadelphia, Pittsburgh, Baltimore, and Washington. Pay data were also collected from private employers in New York City in the following general fields: general manufacturing of such products as tobacco, textiles, clothing, paper, rope, leather, metal products, instruments, and rubber; food processing, beverage processing, petroleum processing, and chemical and drug processing; retail merchandising, retail food distribution, wholesaling and jobbing, and delivery service; transportation, public utilities, and communication; building and general construction; charitable organizations, character-building organizations, hospitals, and social welfare services; banking, finance, and insurance; printing and publishing; hotel keeping and building management; law and title searching; architecture and engineering; radio and television; marine operations; business machines, public stenographic, and office services; and personnel and psychological testing. An effort was made in each



case to obtain data from small and large companies.

**(20) Mandatory Increments**—The Griffenhagen recommendation that periodic salary increments be made mandatory was approved by all groups appearing before us. The final Griffenhagen statement to the Formal Hearings Board calls for four annual increments ranging from \$150 per year in the lowest grades to \$725 per year in the top grade. The employee groups urged larger increments in the lower grades and in some cases more steps. An annual increment starting with \$200 was generally endorsed.

**(21) Seniority Increments**—The failure of Griffenhagen to deal more specifically with seniority was criticized by many representatives of employee groups and by certain administrators.

Griffenhagen & Associates insist that seniority must be rewarded only to the top of the grade, through the normal increments steps, and must be limited by the ceiling of the grade in which the individual person serves. However, they suggested a longevity increment for the individual in the event that some further payment for seniority is decided upon.

**(22) Hazardous Work**—In many cases, higher pay requirements for hazardous work are recognized in the basic class definitions and pay grades applied, but in other cases this is not the case; they should be recognized in the basic pay plan.

**(23) Dentists and Doctors**—A number of dental societies and dental employees criticized the lower general scale for dentists than for doctors. The consultants state that the Federal and State pay scales are not, in fact, equal for medical doctors and for dentists; that dental education is much shorter and generally less exacting than is medical

education; that there is less difficulty in recruiting dentists than there is in recruiting doctors; and that, if the rates are made the same, the City will be underpaying the doctors and will find it difficult to secure men of good training and experience, or it will be overpaying the dentists and will be flooded with applicants.

**(24) Various Other Technical Categories**—Similar comparisons and inequities were presented as between nutritionists and dietitians; between medical social workers and social workers; between chemists and physicists; between accountants and statisticians; and between lawyers of various specialties. In most cases, higher salary rates were recommended, especially in the beginning professional categories.

Griffenhagen & Associates have indicated a number of amendments to correct certain of the "manifest errors" involved in the foregoing criticisms, but insist that their recommendations tend to follow the current best practice and that much of the criticism arises from professional groups which are seeking to advance their own status.

**(25) Number of Pay Grades**—There was some criticism of the 27 pay grades recommended. A smaller number of grades with wider intervals was thought by some to be more workable. It was also recommended that there be no overlapping grades, as has been recommended in the Griffenhagen plan. Our attention was called to the fact that the State of New York has 50 pay grades, and the U. S. government 60 grades, and that these systems do have considerable overlapping in pay scales of the various grades.

**(26) Across-the-Board-Pay Increase** — All the employee groups which addressed themselves to this subject



insisted that a flat pay increase is needed immediately across-the-board regardless of what is done about the Griffenhagen Report. The civic groups and taxpayer organizations took the position that no more flat increases should be made and that any pay increases must be part of a general classification system and must recognize pay levels. Various individuals and departmental administrators took a middle ground, advocating both the adoption of a new classification and pay plan and an across-the-board increase within the structure of the new plan, because of the inevitable delay in getting the plan into operation.

The dollar amount of the proposed across-the-board pay increase was variously recommended at \$500 to \$1,200. The consultants recommended that there be no across-the-board flat pay increase, but that pay increases be developed solely in accordance with the new classification and pay plan.

#### **(27) Minimum Wage for City Employees**

—The organized groups of City employees generally went on record in urging the City to adopt a “minimum wage” policy, ranging from \$2,750 to \$3,000. The Griffenhagen pay plan has as its lowest step in 14 classes \$1,900 to \$2,500 in the original Report, which would be adjusted upward in accordance with the Griffenhagen recommendation that the rise in the cost of living since July 1, 1951, be recognized.

This Board believes that a minimum salary established without regard to value of job and giving undue weight to family structure is an unwise pay plan and is in conflict with the interests of both the employee and the City in achieving the sound policy of equal pay for equal work.

**(28) Food and Quarters**—The Griffenhagen recommendation that charges at cost be made for all food served and for all other services and quarters provided to various classes of employees was attacked chiefly on the ground that the balancing salary adjustments might be inadequate or tardy, and that the salary rates already suggested by Griffenhagen for the categories affected are insufficient.

**(29) Legality of Griffenhagen Recommendations** — It was stated by many that the Griffenhagen recommendations are “illegal” or “unconstitutional.” The consultants pointed out that all recommendations must be interpreted within the framework of the New York State Constitution; that no employees have employment “contracts” with the City except as to pension rights; that the problem of professional certificates is a problem for the recruiting and examining agency; and that other matters of law would presumably be dealt with through the act establishing a classification system.

Those who attack the general program of classification and standardization as illegal or unconstitutional are apparently unfamiliar with what is recommended and with the solid line of judicial decisions and ruling of the State Civil Service Commission on such matters.

**(30)** Many employee organizations criticized the inclusion of many positions claimed to be under the purview of Section 220 of the Labor Law in violation of the contract that specifically excluded positions that either have been determined to be under this Section or are operating under wage agreements.

This Board recommends that all positions whose rates are determined to come under Section 220 should be elimi-



nated from this survey and from any further consideration.

**(31) Vacations, Leave, and Holidays—**

The failure of the City to establish and enforce a single uniform policy in all departments and comparable institutions was universally condemned. It was also agreed that present practices are now generally liberal, though certain organized groups suggested further liberalizations. There was no support for the Griffenhagen suggestion that a two-week vacation allowance might be standard for the City.

**(32) Administration of Classification and Pay Plan—**No one appearing approved of the Griffenhagen recommend-

ation that the new classification agency be set up in the Office of the Mayor. One group of employees urged that the new classification agency be placed directly under the Board of Estimate. All others, including the civic and business groups, recommended that the administration of the classification and pay plan be organized as an integral part of the personnel administration function, and that such changes be made in the Civil Service Commission and its staff as might be required to make such an arrangement fully effective. All groups agreed that adequate machinery must be created to hear individual appeals as soon as a new classification is put into operation.

## CONCLUSIONS AND RECOMMENDATIONS

It is our conclusion that the City of New York should go forward without delay to install a complete classification and pay plan. We conclude that the City can proceed now on the data of the Report of Griffenhagen & Associates although that Report contains many serious deficiencies. These, however, can be overcome in the process of installation by the City itself. But let us emphasize one essential point: the way to classify is *to classify and put in new pay scales*, not to make more surveys or talk about our needs.

### Recommendations

Following are eight recommendations for installing a classification and pay plan in the City:

(1) A Classification Division should be established immediately in the Civil Service Commission which would absorb and develop the present classification unit and be headed by a qualified administrator.

(2) Under the leadership of the Classification Division, the Civil Service Commission and the Bureau of the Budget should immediately set up the machinery for working out a complete career and salary plan. Consideration should be given to the data and principles of the Griffenhagen & Associates Report and to the suggestions and criticisms of the various employee organizations and/or the various departmental administrators presented before the Formal Hearings Board.

(3) Major departments should recognize the need of having a competent personnel officer and immediately make available such a person to assist, advise and co-operate with the Civil Service Commission and the Bureau of the Budget. This personnel officer would eventually extend his departmental activities to the entire personnel management field. But at the start he would confine his energies largely to the classification project.



(4) We refrain in this Report from stating the precise qualification and method of selection of the Director of the Division of Classification recommended under paragraph 1 above, and of the departmental personnel officers recommended in paragraph 3, except to say that they must be thoroughly qualified by training and experience for these assignments.

(5) As an ironclad protection for the rights of the civil servants of the City of New York, the employees should be guaranteed against any reduction of pay and should be guaranteed protection of their status and promotional opportunities through the operation of the new classification and pay grades. To this end, the following administrative devices would be used:

(a) A Table of Equivalencies, showing for each old title and grade the new equivalents to which the occupants of the old titles shall be entitled.

(b) A personal Certificate of Career Opportunities to be issued to each Civil Service employee, indicating how his present promotion and pay rights are continued and may be translated into the new classes and grades.

(c) The creation of a permanent, official Appeals Board, before which individuals may take their grievances on all classification and allocation matters.

(d) The development of a real program of interdepartmental transfer opportunities and in-service training for those transferred.

(6) The Civil Service Commission and Bureau of the Budget should take over from the Mayor's Committee on Management Survey all the Griffenhagen working papers, including the position description files, the class files, the punch cards, and other materials, including the transcript of the Formal

Hearings testimony and the individual appeals documents already filed. These agencies should seek the assistance and advice of administrators, employees, and professional groups from outside the employ of the City, to revise the class definitions to meet the criticisms which have been made.

While this is under way, the individual position descriptions should be reviewed in the field with the systematic aid of the employees and the administrators of each operating unit under the direction of the new departmental personnel officer. This work would take into account changes which have occurred since July, 1951, and would establish the basis for keeping continuously up to date the roster and assignments of employees of each operating unit on a classified basis.

(7) A new classification and graded pay plan should become fully operative on a comprehensive basis as quickly as possible. Wherever segments are completed and can be installed independently through administrative action, without unfairness to other employees and within available budgetary funds, such charges should be introduced when developed. We contemplate that the general comprehensive changes will require action by the State Legislature and approved by the State Civil Service Commission and that they will, therefore, be dealt with at a single time, rather than on a piecemeal basis.

(8) We recommend an increment plan establishing annual increments of \$150 each in the lower ranges and a reasonably higher amount in the middle and higher ranges, provided such ranges are based upon a pay scale comparable in structure to that proposed by Griffenhagen & Associates and in effect in the State service.



We believe that such a pay plan should include full consideration of seniority, but no special or added increment adjustments should be provided for seniority above those which any range would normally receive.

We feel that the salary increase plan suggested in the 1952-53 Budget is probably the best that can be developed under present conditions. However, we count on the development of the classification plan as outlined above to lay the basis for a more equitable system for the near future, so that future salary increases can be made to elimi-

nate inequalities and increase standardization.

(The 1952-53 executive budget allows for increases to all employees save teachers and transit workers, to be determined by the following formula (the formula is based on gross pay, including all previous increases) :

1st \$2,000 .....	12 percent
\$2,000-\$4,000 .....	6 percent
Over \$4,000 .....	5 percent

The maximum increase is \$500. The increase applies only to salaries of \$10,500 and under, with the provision that no salary shall exceed \$10,500 by reason of the increase—ED.)

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## SECTION 4

# PENSIONS

BY

JOSEPH SCHECHTER

New York City has long been a leader in the development of pensions for its public employees. However, while the City now has the most generous retirement provisions found in any major governmental jurisdiction, there are still a few categories of employees which are neither covered by the City nor entitled to old age benefits under the national Social Security system.

New York City will have contributed to retirement systems in the fiscal year

1952-1953 not less than \$132,000,000. This is 17 percent of the total City payroll.

It is a mistake to call the arrangements authorizing and requiring these payments "a pension system" as few of the hundreds of State and local laws and ordinances creating them were adopted with any thought of their fitting into a total, logical retirement scheme. In no field of City management is there such an extensive patchwork of interwoven but mutually oblivious provisions of law. While the situation has been clarified somewhat from time to time, new arrangements and exceptions have followed, so that the confusion is now as great as ever.

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Digest from "Recommendations on the Retirement and Pension Systems of the City of New York," by Joseph Schechter, February 1, 1952. (For further reference see "Retirement and Pension Systems to Which the City of New York Contributes Funds," by Joseph Schechter, October 15, 1951; budget figures quoted in the opening paragraphs above are estimates from the 1951 budget.)



The analysis upon which the following recommendations are based covers all the retirement and pension systems or plans which are applicable to public employees whose salaries are payable in whole or in part by the City of New York, the New York City Housing Authority, the New York City Triborough Bridge and Tunnel Authority, and the Board of Transportation. Specifically, these comprise the following:

### ACTUARIAL SYSTEMS

(1) New York Employees' Retirement System.

(2) New York City Teachers' Retirement System. (Includes former Hunter College Retirement System which was merged with the Teachers' Retirement System on June 30, 1938.)

(3) Board of Education Retirement System.

(4) Police Pension Fund, Article 2.

(5) Fire Department Pension Fund, Article 1-A.

(6) Fire Department Pension Fund, Article 1-B.

(7) New York State Employees' Retirement System.

### NONACTUARIAL SYSTEMS OR PLANS

(8) Police Pension Fund, Article 1.

(9) New York Fire Department Pension Fund, Article 1.

(10) Health Department Pension Fund.

(11) Relief and Pension Fund of the Department of Street Cleaning.

(12) Supreme Court, First Department, Retirement Plan.

(13) Court of General Sessions of New York County Retirement Plan.

(14) County Court of Kings County Retirement Plan.

(15) Board of Transportation—Company (IRT and BMT) Pension Plans.

(16) Grady Law Retirement Plan.

(17) Miscellaneous Provisions of Law, relating to Special Pension Benefits or Awards.

A governmental pension system is always in danger of destruction through "minor changes," first here and then there, which, eventually, add up to modifications which may undermine its fundamental principles. These dangers arise from changes in contributions, changes in benefits, changes in the earnings of reserves, and changes in the general economy, especially rapid inflation, which tends to destroy the efficacy of the funds provided. This danger of destruction through minor unappreciated or invisible changes is greatly increased where many separate funds and many slightly inconsistent provisions are found. Certainly no further changes should be made in the provisions of the pensions of this City unless they lead directly toward general unity and comparative consistency.

In considering any recommendations on pensions and retirement, the limitations necessarily established by reason of the provisions of Article V, Section 7 of the New York State Constitution must be borne in mind. Article V, Section 7 provides as follows:

After July 1, 1940 membership in any pension or retirement system of the State or of a civil division thereof shall be a contractual relationship, the benefits of which shall not be diminished or impaired.

*Consequently, any recommendations which will diminish or impair any retirement or pension benefits cannot affect present members, but can be made applicable only to new entrants.*

It should also be noted that since the New York State Employees' Retirement System is governed by the provisions of the Civil Service Law and is State-wide in the scope of its operation, the recommendations which follow have no application to the State system.



## RECOMMENDATIONS

**(1) Merger and Consolidation of Retirement Systems** — The New York City Employees' Retirement System and the Board of Education Retirement System show a marked similarity in many respects. The members of such systems are engaged in similar types of employment and many of the benefits of such systems are similar. There appears to be no need for a separate system for employees of the Board of Education other than teachers, and no reason why the membership of both such systems should not be served by a single retirement system. There is apparently no compelling reason why a clerk or administrative officer in the New York City Board of Education should not be a member of the New York City Employees' Retirement System as is his counterpart in other City departments and agencies.

Accordingly, it is recommended that the Board of Education Retirement System be merged with the New York City Employees' Retirement System.

**(2) Fire Department Pension Fund, Article 1-A**—Under the present provisions of the Administrative Code, persons who become members of the Fire Department Pension Fund after July 1, 1940, are given the choice between coverage under Article 1-A of Title B, Chapter 19, and coverage under Article 1-B of Title B, Chapter 19. Since that date, no new entrant has chosen to come under the provisions of Article 1-A, inasmuch as the rate of employee's contributions under Article 1-A is higher than that prescribed under Article 1-B. An even wider disparity between the rates of

employee contributions under Article 1-A and Article 1-B has resulted from the recent enactment of Local Law No. 100 of 1951 which, by raising the City's percentage share of retirement contributions under Article 1-B from 55 percent to 75 percent, has decreased the employee percentage share of contributions under Article 1-B from 45 percent to 25 percent, nearly one-half. Consequently, there is no further need for continuing in effect the provisions of Article 1-A.

Accordingly, it is recommended that Article 1-A of Title B, Chapter 19 of the Administrative Code be repealed.

**(3) Administration of Systems**—Under existing law and procedures, each of the retirement and pension systems to which the City contributes funds (both actuarial and nonactuarial) is *separately* administered. There are only two systems, namely, the New York City Employees' Retirement System and the Teachers' Retirement System, to which the City annually appropriates specific funds (on a line item basis) for administration purposes. The duties and functions entailed in the administration of all the other retirement and pension systems are performed in each case by the personnel of the department served by such system.

Accordingly, in order to promote economy and efficiency in the administration of the various retirement systems to which the City contributes funds and to avoid overlapping, duplication, and waste, there should be instituted a consolidation, within practicable limits, of the administration of the various retirement systems, applying



any of the following alternatives, listed in order of preference:

(a) Consolidate in one City agency the administration of all retirement and pension systems, both actuarial and nonactuarial. Since the New York City Employees' Retirement System is largest and is best equipped by personnel and facilities to perform the administrative functions of the various retirement systems of the City, it would appear advisable to transfer the administration of such systems to the New York City Employees' Retirement System.

(b) Allow the New York Teachers' Retirement System, because of its peculiar problems, to continue its present administration and place all other retirement and pension systems (actuarial and nonactuarial) in the New York City Employees' Retirement System for purposes of administration.

This plan follows the pattern now used on the State level, where there are only two large systems, the State Employees' Retirement System and the State Teachers' Retirement System.

(c) Allow the Teachers' Retirement System to continue under its present administration and place all other *actuarial* systems under the New York City Employees' Retirement System for administration purposes and all *nonactuarial* and closed retirement and pension systems (which will eventually go out of existence) under another agency, preferably a City agency dealing with finances.

**(4) Pensions to Policemen and Firemen Disabled in Military Service**—Under the provisions of Sections G41-63.0 and G41-64.0 of the Administrative Code, the boards of trustees of the Police Pension Fund and the Fire Department Pension Fund may retire any member of their respective systems who, while in the military service of the United States, suffers a permanent physical or mental disability which renders such

member unfit to perform the full duty of his employment, and may grant to such member a pension (in the nature of an accidental disability pension) which shall not exceed one-half of the annual compensation earned by such member at the time of his retirement.

No other retirement system provides a similar benefit for its members. Subdivision 4 of Section 246 of the Military Law, which applies generally to members of all public employee retirement systems in the State and its civil divisions, expressly provides that members of such systems, while on military duty, shall be entitled to all benefits *except accidental disability retirement and accidental death benefits*. Policemen and firemen are in no different position than other public employees who enter military service and assume no greater hazard or risk than other employees in the military service. All persons disabled in military service, including policemen and firemen, are entitled to disability pensions from the Federal government. Consequently, there appears to be no sound reason to single out policemen and firemen for this special benefit to the exclusion of all other employees of the City.

Accordingly, it is recommended that Sections G41-63.0 and G41-64.0 of the Administrative Code be repealed or be made inapplicable to new entrants.

**(5) Limitation of Period After Resignation During Which Retirement Contributions May Remain on Deposit and Earn Interest**—At present, members of the various actuarial retirement systems to which the City contributes funds may, after resignation, leave their accumulated contributions on deposit for a period up to five years, during which period such contributions continue to earn interest at the regular rate, namely, 4 percent



for those who became members before July 1, 1947, and 3 percent for those who became members on or after that date. In view of the prevailing low rates of interest now paid on the securities and investments in which retirement and pension funds may legally be invested, this benefit accorded to "resigned" employees results in considerable cost to the City for which the City receives no return.

Accordingly, inasmuch as a "resigned" employee is usually eligible for reinstatement to his former position, without examination, for a period of one year, it is recommended that provision be made by law to reduce from five years to one year the period following his resignation during which a member's accumulated contributions may remain on deposit and continue to draw interest at the regular rate payable on accumulated contributions. Such "resigned" members may be permitted to leave their accumulated contributions on deposit for any period up to five years, but such accumulated contributions should earn interest only at the regular savings bank rate (i.e., 2 percent or  $2\frac{1}{2}$  percent) for any period in excess of one year.

**(6) Rates of Contribution and Minimum Retirement Age for New Entrants in the Police Pension Fund, Article 2, and the Fire Department Pension Fund, Article 1-B**—Prior to October 1, 1951, the members' share of contributions toward the service retirement allowance in both the Police Pension Fund, Article 2, and the Fire Department Pension Fund, Article 1-B, was 45 percent, the remaining 55 percent being contributed by the City. In all other actuarial systems to which the City contributes funds, the members' share of contributions toward the service retirement allowance has been and

continues to be 50 percent. The additional benefit of a lower share (i.e., 45 percent) of contributions apparently had been provided for the members of these two systems to compensate for the hazardous nature of their duties.

On October 1, 1951, however, under the provisions of Local Laws 99 and 100, of 1951, the City's share of contributions to both the Police Pension Fund, Article 2, and the Fire Department Pension Fund, Article 1-B, was raised to 75 percent, thus decreasing the share contributed by the members of such systems to 25 percent. The purpose of this action taken by the City was to provide the members of the uniformed forces of the Fire and Police Departments with a much needed increase in "take-home" pay.

The effect of Local Laws 99 and 100, of 1951, is to reduce the amounts deducted for retirement contributions from the salary checks of members of the Police Pension Fund, Article 2, and the Fire Department Pension Fund, Article 1-B, by nearly one-half, thus granting to such members a considerable increase in "take-home" pay.

The action by the City in decreasing the members' share of contributions in these two systems has evoked a great deal of criticism, both from the public and from members of other retirement systems. The latter argue that any such reduction of employee contributions should be applied uniformly to members of all pension systems to which the City contributes funds on behalf of its employees. They also take the position that this special benefit of reduced contributions granted to policemen and firemen is far out of proportion to any extra hazard or risk which their duties may entail. Members of civic organizations, and the public generally, feel that the



proper way to increase the compensation of policemen and firemen is by a raise in salary and point out that the increased rate of the City's contributions for members of the Police Pension Fund, Article 2, and the Fire Department Pension Fund, Article 1-B, is a contractual obligation under the New York State Constitution which cannot be diminished or impaired.

Accordingly, in order to reduce the wide disparity now in existence between the rates of contribution by members of the pension systems applicable to the uniformed forces of the Police and Fire Departments and by members of all other retirement and pension systems, and to relieve the heavy financial burden now borne by the City by reason of the high cost of the City's share of retirement contributions for members of the Police Fund, Article 2, and the Fire Department Pension Fund, Article 1-B, it is recommended that steps be taken for the adoption of appropriate legislation applicable to new entrants in such pension funds, to provide: (1) that the City's share of contributions in behalf of the members of such pension funds shall be 65 percent, the remaining 35 percent being contributed by the members;\* and (2) that no member of either of such pension funds shall be eligible for service retirement before reaching age 45.

To require members of the Police Pension Fund, Article 2, and the Fire Department Pension Fund, Article 1-B, to pay only a 25 percent share of the contributions to such funds is unrealistic and results in unreasonably heavy costs to the City. To require the members of such systems to pay 35 percent

of contributions would be much more reasonable and would still afford such members a most liberal advantage over other City employees who must pay a 50 percent share of retirement contributions. This advantage, together with the privilege of early retirement at age 45, would provide more than adequate compensation for the extra hazard or risk assumed by policemen and firemen.

Under this recommended division of contributions (i.e., 65 percent by the City, 35 percent by the employees), the rate of contribution of members of the Police Pension Fund, Article 2, and the Fire Department Pension Fund, Article 1-B, would still be considerably lower than that paid by members of other actuarial retirement systems who choose the retirement plan which provides the maximum retirement benefits and the earliest retirement age,\* and should not prove to be too burdensome. Furthermore, the City's financial burden in connection with retirement contributions for members of these two pension funds would be considerably lessened.

The establishment of a minimum retirement age of 45 years for members of these two systems would also result in a considerable saving to the City. At present, most new appointees in the Police and Fire Departments are persons in their early twenties, usually 21 or 22 years of age, and under existing provisions of law, these new appointees are eligible to retire after 20 years of service, at age 41 or 42. Because of the long life expectancy of a person at age 41 and 42, the rates of retirement contributions paid by such youthful entrants, who elect to retire under the 20-Year Plan, and the rates paid by the City in their behalf, are necessarily very

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\*The Committee recommends that all funds be placed on the same contributory basis, 50/50. See page 215.

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\*The earliest retirement age in any of the other actuarial systems is 55.



high. By establishing a minimum retirement age of 45 years, a new entrant at age 21 would not be eligible for service retirement until after 24 years of service. Consequently, since his life expectancy would be shorter at age 45 than at age 41, the sum total of contributions necessary to provide for his retirement at half pay at age 45 would be less than that required for his retirement at age 41. Furthermore, such total contributions would be payable over a longer period of time (i.e., 24 years rather than 20 years). Accordingly, it follows that the rates of contribution payable by such an employee and by the City in his behalf would be considerably less than rates payable under the present plan.

A minimum retirement age of 45 years would also benefit the City in another way, since it would assure to the City the continued service, at least until age 45, of policemen and firemen who have reached the point where their value to the City, as employees, is greatest. To permit retirement at age 41, or prior to age 45, is obviously wasteful, unrealistic, and impracticable. No other retirement plan permits the service retirement of a public employee as such a youthful age.

**(7) Retirement and Pension Plans for Employees of Cultural Institutions** — At present, the City contributes the employer's share of contributions to the New York State Employees' Retirement System for employees of the three public libraries (i.e., New York Public Library, Brooklyn Public Library, and Queens Borough Public Library) who are paid from City funds. In addition to these three public libraries, however, there are eleven other cultural institutions having employees whose salaries are paid by the City, but for whom

the City makes no contributions for retirement purposes. At present, no retirement plan or benefits are available to employees of the majority of these institutions. Employees of seven of the institutions which have no pension plans, however, are now covered by the Federal old age insurance program\* under an arrangement, recently made, by which the City has agreed to reimburse the institutions for the amount of the employer's Federal Social Security tax to the extent that the salaries of their employees are paid from City funds. However, Federal old age insurance benefits fall far short of providing old age pensions in the degree of adequacy which should be provided for these employees, and are much less than pensions payable under the various retirement and pension plans offered to other City employees. The employees of these cultural institutions should be eligible for membership in a retirement system and should be entitled to receive the same benefit of City contributions now enjoyed by employees of the three public libraries. These institutions are desirous of effecting an arrangement for entry into the State Employees' Retirement System, provided that the City will agree to meet the costs of the employer, including the annual deficiency contribution which chiefly covers prior service, to the extent that employees' salaries are paid from City funds. However, the American Museum of Natural History, the Metropolitan Museum of Art, and the New York Zoological Society all have existing pension plans which may be very difficult to terminate because of existing commitments of these institutions.

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\*Employees of the New York Botanical Garden are not covered by a Federal old age insurance program or by a pension plan.



Accordingly, it is recommended that steps be taken to survey the problem of providing retirement benefits to employees of the cultural institutions with a view to effecting the entry into the State Employees' Retirement System of those institutions which at present have no pension or retirement plan, under an agreement by the City to pay the employer's costs in connection therewith to the extent that salaries of employees of such institutions are paid from City funds. Those institutions having existing pension plans also should be permitted, at their election, to enter the State Employees' Retirement System, under a similar arrangement by the City for the payment of employer's costs. With respect to those institutions having existing pension plans which such institutions elect to continue, it is recommended that an arrangement be made, if the same is legally permissible, for contribution by the City to such private pension plans (provided such pension plans are made subject to appropriate control and supervision by the City) of the actual employer's costs in connection therewith for employees paid from City funds to the extent that such costs do not exceed the employer's costs which would otherwise be payable if such institutions elected to enter the State Employees' Retirement System.

**(8) Social Security Benefits** — Under present provisions of Federal law, only those State and local governmental employees who are not now members of a State or local retirement or pension system are eligible for Federal social security coverage, i.e., so-called "Old Age Insurance and Survivors Benefits." Those who are covered by governmental pension or retirement plans are not eligible for such Federal social security coverage. In view of the excep-

tional rise in prices during the post-war period and the prospect of an even higher cost of living in the years to come, it appears desirable that some provision be made to extend the Federal social insurance program to local government employees who are at present covered by State or local retirement plans, in order that their relatively small retirement allowances may be supplemented by Federal old age insurance benefits.

Accordingly, it is recommended that City and State officials confer with officials of the Federal Social Security Administration in relation to the coordination of the various retirement systems within the City with the general social security program sponsored by the Federal government and in relation to such Federal legislation as may be required in connection therewith.

**(9) Increase in Pensions of Retired Employees**—The rapid rise in the cost of living during the post-war years has brought financial distress to many retired public employees who are forced to live on pensions which were planned and paid for during a period when the purchasing power of the dollar was far greater than it is today. Many of our retired City employees now find themselves unable to maintain even a minimum standard of living on the meager retirement allowances which they receive and are forced to seek whatever work they can find, despite their advanced age.

Recognizing the plight of retired civil servants, the People of the State, at the general election on November 6, 1951, approved an amendment to Section 8 of Article VII of the State Constitution authorizing the Legislature to provide by law "for the increase in the amount of pensions of any member of



a retirement system of the state or of a subdivision of the state." This amendment will permit an increase in pension payments to those retired employees who are receiving inadequate pensions.

Accordingly, it is recommended that a careful study be made of the financial status of retired City employees with a view to effecting such legislation as may be necessary to provide for supplemental financial aid to pensioned City employees in order to relieve them from the financial distress which they now suffer.

**(10) Inconsistencies and Lack of Uniformity in Provisions of Retirement and Pension Systems**—An examination of the various retirement and pension systems provided for employees paid out of City funds discloses a great many inconsistencies among the diverse plans offered and the various features of such plans. For example, minimum retirement age ranges from 55 years to 65

years, or after 20, 25, 30, or 35 years of service. Some systems have no compulsory maximum retirement age, some have age 70 as the maximum retirement age and some have age 63. Rates of contribution and the various service retirement benefits and death and disability benefits offered are markedly different from system to system. Although all employees covered are paid in whole or in part by the City of New York, there is clearly a lack of uniformity among the retirement plans and benefits available to such employees.

Accordingly, it is recommended that a full and comprehensive study be made, from every standpoint, of every retirement system and pension fund to which the City contributes funds, with a view toward effecting as great a degree of uniformity as possible among the retirement plans and benefits offered by such systems and the contributions required of members thereof.

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## SECTION 5

# RECRUITMENT AND EXAMINATION

By

RICHARDSON, BELLOWS, HENRY & COMPANY, INC.

Richardson, Bellows, Henry & Company, Inc., reviewed recruitment procedures, organization for recruitment and examinations, and quality of examinations of the Municipal Civil Service

Commission, together with an evaluation of the service rating system presently employed by the City.

A sample of the operating officials of the City expressed their judgments on the degree to which the Municipal Civil Service Commission is meeting their needs for personnel services. In addi-

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Digest from "A Survey of Examination and Recruitment Procedures of the New York City Civil Service Commission," by Richardson, Bellows, Henry & Company, Inc., July, 1951.



tion, the attitudes toward Civil Service procedures of employees and of candidates for examinations were sampled.

Certain other matters, so closely related to more specific areas that they were necessarily considered during the survey, included investigation procedures, certification procedures, provisional appointments, uniform conditions of employment, and merit rating.

Data comparing New York City's personnel operation with that of other large public personnel agencies were obtained from a questionnaire circulated to 20 public personnel agencies throughout the United States. The Civil Service Assembly of the United States and Canada sponsored these questionnaires, reviewed the returns in general, and approved the manner in which the data have been used.

### **Resources of the Commission**

The New York City Municipal Civil Service Commission is seriously underfinanced by any standard applied. It lacks resources for performing effectively its phase of personnel administration for the City. According to useable data obtained from 18 other major personnel agencies, New York City ranks sixteenth in its expenditure per employee (\$5.99 as against \$27.22 for California, \$16.13 for Los Angeles, \$14.24 average for the group). Changes in program emphasis and in procedures are suggested which should strengthen the present operations of the Commission. No shift in emphasis or revision of practices will, however, overcome the basic underfinancing of the Commission.

This underfinancing has led to a policy of devoting examining efforts almost exclusively to the retirement of provisional appointees. But in a tightening labor market, this policy will make

relatively little contribution to the City's real requirements. To bring the New York Commission's staff to the required level might well result in doubling the number of employees on the Commission's payroll, particularly in the professional categories.

It is not possible at this time to indicate the exact amount of expansion required within the Commission. Its salary expenditures at the time of the survey were approximately \$1,000,000. It has been suggested that the agency as a whole should receive per classified employee as much as the group average of the agencies cited above. This would result in more than doubling the present appropriation. Adequate maintenance of the classification and pay plan now in process of being established may require as many as 50 employees, of which all except 6 to 10 would probably be at various professional levels. Even with the release of examiner time which should result from the adoption of some of the suggestions made in this Report, the examination work load cannot be put on a current basis, without considerable expansion in this staff. Some other professional workers in the fields of employee training, employee relations, and safety should also be added to the staff. All these figures, and those for needed clerical and administrative workers, can only be determined after a comprehensive program for the Commission has been formulated in the light of recommendations contained herein.

### **Professional Examiners**

The New York professional examiners' staff has been compressed into too narrow a range of pay. No staff member in the Commission receives as much as \$8,500 per year, while 28 persons receive more than this amount in the other cities and states examined with 14



of these receiving salaries in excess of \$10,000. On the other hand, only one New York Commission examiner receives less than \$4,500 per year, while approximately 47 percent of such workers are paid less than this amount in the other jurisdictions reviewed. There are, it appears, no junior staff members in the New York Commission. The Commission needs a junior staff to take care of future needs as well as adequate pay recognition to attract top-flight leadership.

Time Factors

It takes more than twice as long for the New York Civil Service Commission to schedule, announce, hold, and rate examinations and to certify candidates for positions as it does any other central personnel agency reviewed. Several New York City examinations adminis-

tered before the present Korean crisis have not yet resulted in a list from which appointments may be made. The 18 to 21 months required on an average to select an employee and place him on the payroll (see table below) seriously discourages those originally interested in working for the City. Any delay in preparing and certifying lists of eligibles drastically cuts down the percentage of those eligible who are really available for positions in the Municipal Service.

A number of changes in procedure are necessary to cut down the time consumed by the examination process. A major one calls for tightening the Commission's policies on declinations so as to eliminate time lost in examining applicants for jobs who do not intend to accept the job if they qualify.

TIME REQUIRED, IN DAYS, FOR STEPS IN THE EXAMINING PROCESS  
BASED ON REPORTS OF TYPICAL EXAMINATIONS COMPLETED IN 1950

Jurisdiction	Ordering Examination to Announcement	Announcement to Examination	Examination to Rating	Rating to Register	Register to first Certification	Total
New York City .....	99	113	79	94	130	515 <sup>1</sup>
Illinois .....	75	66	17	67	0	225
New York State .....	21	66	59	62	9	217
Michigan .....	—	57	49 <sup>2</sup>		38	144 <sup>3</sup>
Philadelphia .....	32	48	41	8	3	132
Los Angeles (City) .....	16	54	59		0	129
California .....	—	67	24	35	0	126
Chicago .....	—	73	50		—	123
Minnesota .....	—	55	57		0	112
Los Angeles (County).....	26	46	13	18	8	111
San Francisco .....	—	65	23	22	0	110
Cleveland .....	—	36	47		3	86
Wisconsin .....	11	46	29		0	86
Milwaukee .....	—	50	24		0	74
Detroit .....	0	25	25	17	0	67
Louisville .....	—	16	2	28	2	48

<sup>1</sup>In addition, the certification process at present involves a delay of approximately 90 days before actual certifications are made. No other agency reported any such delay after a list is officially promulgated.  
<sup>2</sup>Includes all time from administration of examination to completion of register.  
<sup>3</sup>Corrected from figure 114 appearing in the published Report.



Examinations

The examinations given by the Commission are, in general, not up to the standards observed in the better large public personnel agencies in the United States. Many of the job descriptions are stated so broadly and vaguely that any examiner would have difficulty in determining the objectives and content of the examination. The examinations do not include enough aptitude test material. The Commission uses too much free-answer material, presumably because of limited staff facilities, and the short-answer tests do not contain enough items and therefore are not as reliable as they should be. Not enough attention is paid to proper time limits on examinations. Better job analyses to determine examination content would allow for formulation of examinations of wider scope.

The New York Commission does not have an adequate program for the improvement of examinations and exploitation of newer methods adopted in other jurisdictions.

General Emphasis

The table below indicates that the New York City Civil Service Commission does not engage in a number of activities which other public personnel agencies consider integral parts of their program.

The change of emphasis in the New York City program to one approximating the average found elsewhere would make possible real contributions in some of the areas now neglected or underemphasized. Since approximately

ANALYSIS OF PERSONNEL PROGRAM OF NEW YORK CITY AND OF 13 OTHER PUBLIC PERSONNEL AGENCIES BY PERCENTAGE OF TIME SPENT ON EACH ACTIVITY

Function		Percentage of Time, New York City	Average Percentage of Time, 13 Other Agencies
Position Classification	}	3	12.2
Pay Rate Administration			2.3
Employee Training		0	2.1
Safety		0	.2
Service Ratings		5	1.7
Personnel Records		5	9.5
Hearings and Appeals		2	2.5
Payroll Certification		10	5.6
Selection Processes (total)		75	51
Recruiting Applicants		2	6.5
Preparing Examinations		13	18.9
Administering Examinations		5	7.2
Test Scoring		25	7.2
Interviewing		20	4.7
Certifying Eligibles		10	6.5
Other		0	12.7
		100	100.0

96 percent of the New York Commission's funds are expended on personal services, each percentage point represents approximately \$10,000 worth of salary expenditure. Thus, the use of even 2.1 percent of the Commission's resources on the item *Employee Training* (which is the average of the other agencies reporting) would allow hiring at least two professional training officers. Approximating the average emphasis reported by other agencies would mean devoting almost five times as much attention to classification and pay matters as is now the case. In general, the figures obtained from agencies outside of New York show greater emphasis on technical and professional operations as against clerical and servicing operations.

RECOMMENDATIONS

Examinations

Greater emphasis should be placed on tests which can be rapidly and easily

rated. Test-scoring machines should be used. In addition, "progressive" examinations, made up of core sections



with progressively more difficult or more specialized sections, can be used to establish a large number of registers. This technique is widely used by other public personnel agencies, particularly the United States Civil Service Commission. Other testing techniques which may be used to save time include "short-answer" forms for stenographic tests, the use of "item pools," and utilization of free-answer material only when objective-type tests are clearly not applicable.

**Objective Tests** — The short-answer (objective) tests are, with a few exceptions, too short, that is, they do not contain enough items, and are thus not as reliable as they ought to be. All New York examinations have generous time limits; in effect, speed of examination performance is hardly measured at all. *Some study needs to be made of optimum time limits, particularly on the clerical examinations. Without question, most of the short-answer tests need to be lengthened.*

The practice of immediate publication of written examinations (almost unique in New York City) is necessarily costly and probably reduces the effectiveness of the examining program. Also, Civil Service agencies throughout the country have found that examinations must be prepared in advance so that they may be promptly given when the need arises.

## Recruitment

The recruiting activities of the Commission are too restricted and account to a considerable extent for the failure of the Commission to provide a sufficient number of eligibles to meet the requirements of the City Service. The Commission should use newspaper ads, subway posters, spot radio announcements over

Municipal Radio Station WNYC, and contacts with various high-school and college graduating classes in order to attract a wider range of candidates for positions available in the Civil Service.

Residence requirements, as imposed by the so-called "Lyons Law," should be waived in many of the professional fields. New York City's "loose" labor market means that workers are usually readily available in most occupations if appropriate salaries and conditions of employment are offered and if effective recruiting methods are used. This is not true, however, at all times, nor of all kinds of work. In times of high employment, complete reliance on the City as a labor market becomes disappointing because of natural shortages in some occupations.

The City does not seriously compete, from a salary point of view, with other employers in the New York area. It is plain that no improvement in recruitment or selection procedures can provide sufficient employees for the City Service if the pay offered to potential workers is considerably below that which they can obtain elsewhere.

The number of provisional employees (15,130 in April, 1951), as related to the total number of employees, is unsatisfactory. The average of provisional employees, assumed valid in 12 of the 15 personnel agencies included in the questionnaire, is only 3.1 percent of the total number of employees. New York City has 10.3 percent provisional employees.

## Investigations

There are, in the New York Commission, nearly as many persons concerned with investigating candidates as with devising examinations for them. Considering the limited resources of the



Commission, this is particularly unfortunate. The investigation is repeated departmentally in some instances and its effectiveness is open to doubt. No other agency places as great stress on this activity; New York should seriously consider whether or not it merits the expenditure of so large a proportion of the Commission's resources.

### **Declinations**

At present an eligible may decline an appointment for any of the following reasons: (a) residence in a Borough other than that in which the position offered is located; (b) an offer of salary less than the maximum for the title of the position; (c) temporary inability; (d) temporary nature of the position offered; and (e) hazardous, unpleasant, or depressing working conditions. The basis for these policies is generally historical in character and not subject to substantiation.

It is suggested that the Certification Bureau be charged with the responsibility for granting declinations within the broad policies outlined below, and that eligibles be given the right of appeal to the Commission when they feel that the Certification staff has made an unfair decision. No declinations should be allowed merely because of residence in another Borough, or because of refusal to accept the advertised salary for a position. Declinations should be accepted if a position is truly temporary. Declinations because of "temporary inability" should be allowed only in case of temporary illness, the necessity of giving a present employer reasonable notice, or reasonably brief delays in straightening out personal business. When positions involve hazardous or unpleasant working conditions, the Certification staff should recommend to the Commission

whether declinations should be allowed whenever requested or whether the position should be considered for inclusion in the non-competitive class.

### **Merit Ratings**

The only use made of service ratings of employees is as one factor in the final rating on promotion examinations. Ratings would be given greater attention and would produce more worthwhile results if they formed the basis for granting periodic pay increases. Any effort to make the present system more useful, however, will require considerable supervisory training and some revision of the plan so that it will fit a wider variety of occupational groups. The large amount of research in employee rating which has taken place since the introduction of the New York system should be utilized in considering changes in the plan. The attempt to promote consistently from within does not always result in the selection of the most effective persons.

### **Additional Comments on Existing Conditions**

The program of the Civil Service Commission is an incomplete one, which emphasizes examination activities at the expense of other phases of personnel administration. Some of the neglected phases are position classification, pay determination, training, safety, employee relations, and development of uniform personnel policies.

A major obstacle to an adequate personnel program for the City of New York has been the lack of a modern, integrated classification and pay plan. The results of the study of classification and pay made by the Mayor's Committee should be of inestimable value to the examining and recruiting activities of the Civil Service Commission.



Employee organizations expressed a considerable degree of dissatisfaction with the City's personnel program. As might be expected, a majority of complaints were related to salary levels within the City Service. Most complaints, even those apparently relating to salaries, were attributable, however, to classification procedures, promotion activities, lack of uniform conditions of employment, and the slowness of the Commission's action on situations brought to its attention.

### **Checklist of Recommended Improvements**

Following are 16 suggestions for improvement of recruiting and examining:

- (1) Put more money into personnel activities.
- (2) Reduce routine activities of professional examiners.
- (3) Broaden the entire personnel program with respect to objectives and activities.
- (4) Have more departmental participation in personnel procedures.
- (5) Recognize the training function.

(6) Advertise better, by all means possible, the advantages of employment in the New York City Civil Service.

(7) Reapportion effort so as to spend relatively less time on investigations.

(8) Tighten declination rules.

(9) Base all recruiting and examining efforts on sound job descriptions, with job levels built into them.

(10) Set up a program of research on the quality of examinations.

(11) Revise the promotion system.

(12) Establish uniform personnel policies, such as those relating to hours of work, leave, entrance pay rates, etc.

(13) Get fully abreast of modern practices in other Civil Service jurisdictions.

(14) Use machine methods wherever possible, particularly in test-scoring and certification.

(15) Shorten the time for certification, that is, the period between the departmental request for an employee and appointment to fill the position.

(16) Shorten, drastically, the period between the announcement of an examination and promulgation of the eligible register.

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## SECTION 6

**PERSONNEL ADMINISTRATION**

BY

WALLACE S. SAYRE AND HERBERT KAUFMAN

New York City, its government, its economic structure, its problems of administration, its Civil Service, have all grown enormously and multiplied in complexity in the half century since the Greater City was created. Between 1900 and 1950, the City's population doubled, but its Civil Service increased sixfold. New demands for service and new requirements for higher standards have been added each year. Since 1930 alone, some of the most important new services include ownership and management of the country's largest rapid transit system, the country's largest and most active municipal housing authority, a new and integrated welfare department, a new traffic control agency, a new smoke control agency, new bridge and tunnel authorities, and others. And the older departments have had to face the new problems and shoulder the new responsibilities of the modern City brought on by the automobile, the truck, the skyscraper, giant apartments, etc. To meet these demands, the Civil Service has changed in character from primarily clerical and unskilled to highly specialized, calling for the highest technical, professional, and managerial skills.

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Digest from "Personnel Administration in the Government of New York City," by Wallace S. Sayre and Herbert Kaufman, March, 1952.

To develop and nurture such a Civil Service, to meet the requirements of the changing City, the City government must have a modern system of personnel administration. This it does not now have. In spite of the great changes that have taken place, the City government's machinery for personnel administration has changed almost not at all in the last five decades.

That is not to say the present system has no virtues; on the contrary, its achievements have been considerable. The merit system has been firmly established, and its ideals and objectives are no longer openly challenged. Important aspects of the personnel process are made public and are thus exposed to public scrutiny. The system is well policed by City employees, eligibles, the press, and civic organizations.

But the present system is still far short of the mark. Some 50,000 positions (including exempt, labor and non-competitive classes as well as provisionals) are still exposed to patronage control. Though the competitive class, which is the core of the merit system, is large, it is not nearly so inclusive as it might be.

Personnel administration has been negative and incomplete. It has not been seen as a basic executive responsibility and function. The Mayor and depart-



ment heads lack personnel staffs. The Municipal Civil Service Commission has been hampered by a severely limited approach toward the scope of personnel administration, a weak organizational position in the City government, insufficient budget and staff to carry on an adequate program, and a State Civil Service Law ill-suited to the needs of a giant metropolis. In short, New York City lacks the concepts and the machinery for modern personnel administration.

Great strides have been made in personnel administration in the last 25 years in the Federal government, in

New York, New Jersey, and some other states and in most large and intermediate business corporations. New York City, once in a position of leadership in this field, has lost ground; today, it is not merely below the leaders, it is below the average. This great municipal enterprise, its staff outnumbered only by the staffs of the Federal government and a handful of corporate giants, cannot continue in this fashion. Not only as a matter of civic pride, but as a matter of managerial necessity, it must regain its position of leadership in the extension of the merit system and in the development of a full program of personnel administration.

## CLASSIFICATION, PAY, AND PENSIONS\*

The central objective of personnel administration is to assist the Mayor in the performance of the tasks imposed on him by the growth of the City, its problems, and its governments. The achievement of this objective, in turn, depends to a considerable extent upon the classification, pay, and pension systems. For these systems, if properly constructed, can provide justice to the employees of the City by furnishing a base for granting equal rewards for equal work; even if this were not a goal worth while in itself in a democratic community, it would nevertheless be sought because just treatment encourages high morale, high morale contributes to high production, and high production means more service per dollar spent, which is the essence of economy. In addition, well-planned

classification, pay, and pension arrangements facilitate: (1) intelligent, effective, and economical operation in every phase of the personnel procurement process; (2) development of career systems designed to unleash the full potentialities of the members of the Municipal Civil Service at every level and to bring the most capable and industrious employees into the top administrative echelons of the City government; and (3) adjustment of the administrative machinery of the City to program changes and administrative reorganizations.

### Present Practice

#### Lack of Classification and Pay Systems

—There is no orderly system of position classification or pay. Positions entailing like duties are often differently classified; persons performing different duties are frequently identically classified; and there are accompanying disparities of pay. These conditions are the result of the failure to establish

\*ED. NOTE: See Section 1 of this chapter for extended digest of "Classification and Compensation of the Service of the City of New York," by Griffenhagen & Associates, and Section 4 for extended digest of pension study by Joseph Schechter.



and develop a classification system; of a lack of job specifications and class definitions; of a lack of adequate classification staff; of insufficient contact between the Civil Service Commission and the operating units with respect to matters of classification; of the blind dependence of the Civil Service Commission on the lead of the Bureau of the Budget in matters of pay administration; of classification of positions according to the incumbents holding them at the moment rather than according to the duties involved; and of assignment of employees to work "out of title."

**Pension Inequities**—There are 16 pension systems, imposing different burdens on employees and providing different benefits to them, thus adding to the inequities of the deficient classification system and the confused pay arrangements.

**Variations in Leave, Vacation, Hours of Work**—Leave and vacation policies and hours of work vary from department to department, contributing further, in effect, to the inequalities in what employees get for their labor and what the City gets for its money.

**Use of Provisionals**—Extensive use is made of provisional employees whose positions and salaries do not conform even to the primitive classification and pay schemes currently in effect. This practice reflects: (1) weaknesses in pay policies, which are often too low to attract persons qualified to become permanent employees in certain categories, and (2) failure of the procurement process to produce personnel at the time and with the skills required.

Many of the above problems appear in magnified form in the non-competitive and labor classes, where there has not even been imposed the loose disci-

pline and order required to conduct competitive examinations.

## Recommendations

**Adopt Classification and Pay Plans**—Classification and compensation plans should be adopted and put into effect immediately. They should draw on the basic proposals of Griffenhagen & Associates considered in the perspective of the results of the Formal Hearings Board. Whatever their defects, the Griffenhagen proposals are self-correcting in that they include provisions for rectifying errors by setting up machinery for the constant review and adjustment of classification. The need for such an orderly system, despite its initial imperfections, is beyond question. A professionally qualified classification staff should be included in the central personnel agency called for by the present authors, to see that necessary improvements are made.

**Extend the Plans**—The central personnel agency should undertake to extend the classification plan beyond the 86,000 positions covered by the Griffenhagen proposals. These positions constitute only about half the total under the jurisdiction of the Civil Service Commission. Once a plan governing these positions has been put into effect, these portions of the competitive class now excluded should be brought under the system as soon as possible. At the same time, the central personnel agency should embark on a continuous campaign to extend the competitive class upward, outward, and downward (into the exempt, non-competitive, and labor ranks), bringing into this category every position that can be filled effectively on a competitive basis.

**Unified Pension Administration**—The administration of the ten closed pension



systems should be merged in order to reduce overhead costs. The possibility of consolidating the six open systems should be studied; explorations of this nature might reveal ways of consolidating the open systems in one unified scheme covering the entire Civil Service, which might, in turn, reduce variations in burdens and benefits and improve pension administration.

#### **Central Regulations on Leave and Hours**

—The central personnel agency should be empowered to promulgate (in consultation with the Bureau of the Budget, the Municipal Personnel Council and the departments and agencies, and with the approval of the Mayor) regulations governing all types of leaves and providing for equivalent hours of work

throughout the entire Municipal Civil Service. The central personnel agency should be responsible for supervising the enforcement of such regulations once they have been adopted.

**Control and Limit Provisional Employment**—Regulations governing the employment of provisionals should be revised by the central personnel agency so as to make continued use of such employees virtually impossible over extended periods. Provisional employment cannot be entirely prevented, but it should be carefully controlled and limited in duration. When controls are imposed and classification and procurement improved, recognition should be granted for service rendered in a provisional capacity.

## **RECRUITMENT, EXAMINATION, APPOINTMENT, AND PLACEMENT\***

### **Present Practice**

**Recruitment Is Unimaginative**—The recruitment program for the municipal public service is confined to a few routine activities. The bulk of those who apply to take examinations apparently learn of the opportunity from the newspapers devoting attention to Civil Service matters or by hearsay. This weak program is a result partly of lack of funds, partly of lack of imagination, and partly of Bureau of the Budget control of each individual recruiting announcement and each advertisement, all of which have operated to cripple recruiting efforts.

**Examination Falls Short of Its Goals**—The Richardson, Bellows & Henry Report on examination and recruitment\*

shows in detail that the examining process, as it is conducted in this City, frequently fails to produce the best qualified candidates from among the applicants. This is the case in spite of the fact that the Municipal Civil Service Commission devotes a disproportionately high percentage of its time and money to the examining process, even to the neglect of equally important phases of personnel administration. Highlights of the current situation are given here:

(1) Written examinations are of poor quality, with excessive emphasis on purely technical information and rote knowledge of manuals. The validity and reliability of the tests used are open to serious question.

(2) Evaluation of training and experience is unsatisfactory, for scorers are often more impressed by job titles and length of service than by the character of the work performed in previous positions.

\*ED. NOTE: See Section 5 for extended digest of recruitment and examination study by Richardson, Bellows, Henry & Company, Inc.



(3) Oral examination, in which the New York City Civil Service Commission pioneered, is today neglected.

(4) Medical examinations by the Civil Service Commission are generally cursory, and tests of strength and agility are not always given when needed.

(5) The statutory residence requirement prevents the City from securing the services of able persons from outside the City.

(6) Weighting of the several tests comprised in each examination is unbalanced.

(7) Examinations are not given often enough, and long intervals elapse between agency requests for the names of eligibles and actual examination. City departments and agencies, hampered in the execution of their programs, are therefore compelled to employ large numbers of provisionals over more extended periods.

(8) Performance testing is the brightest spot in the examination picture; the City does better in this respect than many other jurisdictions.

**Certification Is Slow**—Excessively long periods elapse between the announcement of an examination and the certification of a list. In this interval, many of the best applicants are lost to other levels of government or to industry. Present certification practices are unnecessarily slow and costly, involving repeated contacts with the eligibles, unsound and confusing policies on declaration, and often disregarding the needs of the line departments in declaring lists appropriate to positions other than those for which they were originally established.

**Appointment Is Deficient**—The process of appointment is rigid, the appointing officer being restricted by order of the Mayor to the top name on the list. The

appointing officer is not furnished with the eligible's papers before or even at the time of the appointment. Appointees usually receive no record of personnel action taken.

**Placement and Probation Are Not Used**—Initial placement is random; rarely is any effort made to shift the appointee in order to make the best possible placement. Probation is an empty rite, not a personnel process.

## Recommendations

**Vigorous Central Recruiting**—The central personnel agency of the City should undertake a vigorous recruiting program, consisting of a planned program of public relations; systematic liaison with all the schools and colleges and universities in the City; close contact with the operating departments; establishment of recruitment rosters for specialized personnel; joint tests, wherever appropriate, with State and Federal offices in the City; and recruiting beyond the City limits.

**Improve Examination and Certification**—The examination system should be improved by precise specification of entrance qualifications; enlarging and improving the central examining staff; co-operation with the operating agencies in the construction of examinations; and development of objective standards for qualitative rating of experience and training, and for weighting these in competitive tests. Promotion examinations should test for ability to handle the job rather than rote knowledge of the rules. Tests of supervisory capability, executive ability, aptitudes, and learning ability should be added; oral interviews and more and longer short-answer tests should be used; and there should be more research on the effectiveness, reliability, and



validity of tests. Medical and physical examinations should be tightened, and residence requirements waived when appropriate. Time between announcement of examinations and certification of lists and the emphasis on investigation should be reduced, and the central personnel agency should be permitted, without action by the Bureau of the Budget, to order a provisional replaced. There should be more use of pooled certification, and on the spot appointments by recruiting officers.

**Correct the Process of Appointment—**

There should be more selective certification of eligibles with particular

specialties culled out of a more general list; and, at least for high-level and highly specialized positions in the beginning, the rule of three should be restored. The central personnel agency should maintain adequate records on candidates, these records to be supplied the departments and agencies whenever lists are certified to them. The hiring agency should automatically notify the employee of personnel action. Greater emphasis should be placed on careful placement by the appointing agency, and probation should be used whenever possible as a period during which an appointee is wedded to no particular job and can be reassigned.

## CAREER DEVELOPMENT

The broad objectives of the City's personnel program are twofold. One purpose is to protect the interests of the City government by maximizing the contribution of each employee to the work programs of the municipal administration, and by furnishing qualified replacements for the top administrative levels. The other is to satisfy the legitimate financial and psychological needs of the City's employees.

These objectives are thoroughly consistent with each other, and may be attained by planned development of a career system which: (1) provides avenues for advancement to positions of increasing responsibility and reward for those who display the requisite qualities and interest; (2) prepares outstanding and highly motivated employees to take over duties of the higher positions they will assume; (3) offers to the person who has reached his ceiling (but who is, at his own level, a competent worker) sufficient incentive

to remain with the organization and continue to give it the benefit of his skills; and (4) cultivates the latent abilities of the City employees so as to enrich their contribution to the City's programs.

### Present Practice

**"Promotion" without Promotion—**"Promotion" in New York often signifies an increase in pay and official grade with no change in duties. It frequently constitutes nothing more than a reward for long service, bearing little relationship to what the employee did in the past or what he can do or will do in the future. Promotion examinations give excessive weight to seniority, stress rote memory of manuals and conformity to existing procedures rather than imagination, initiative, and supervisory skill, and show all the defects characteristic of entrance examinations.

**Restricted Promotion Ladders—**Promotion ladders are confined to depart-



ments and even to subdivisions of departments. As a result, it cannot be said that the City really has a municipal career service. What actually prevails is a group of departmental and bureau career systems with large, sometimes startling, variations from one to another. Neither the interests of the City nor those of the civil servant are adequately safeguarded under the circumstances.

**Limited Use of Efficiency Ratings**—Efficiency ratings are used merely as a factor in promotion. Superior officers do not often consult with their subordinates when they rate them, and actual evaluation of the ratings is performed by the Civil Service Commission which usually does not confer with the officials submitting the information on which the evaluation is based.

**Lack of Training**—With a few notable exceptions, little organized training is conducted in the New York City government. Such training as is carried on is for the most part not professionally planned or directed, there being no central agency to provide expert advice, guidance, and assistance. It is carried on largely by persons unfamiliar with modern training techniques who are rarely in an organizational position of sufficient status to lend authority to their efforts. It would be far more accurate to say that there is virtually no training than that training is of poor quality. This situation has arisen partly because training has never been seen as a special phase of the process of communication and partly because the unfortunate experience of the former Bureau of Training a decade ago has been permitted to obscure the advantages of a central training organization functioning in a leadership and advisory capacity.

## Recommendations

**Develop City-Wide Promotion Plans**—The central personnel agency of the City should develop City-wide promotion plans designed to establish a career service for all municipal employees. The system should be based on the broad classes and grades of the new duties classification plan rather than on organizational units. It should emphasize the benefits of “diagonal promotion” wherever this is not prevented by high specialization, instead of placing reliance on a purely “vertical” pattern as is now the case.

The career system should also make provision for incentive awards to the City employee who is performing excellently at his own level but who is not ready for promotion to a position of greater responsibility. Such awards should include not only cash benefits but extra leave with pay, additional credit toward promotion, training scholarships, and certificates for length of meritorious service.

**Improve Promotion Examinations**—Promotion examinations should stress capacity to assume greater responsibility instead of seniority. New emphasis in examination, new methods of testing, and, through effective classification, more accurate knowledge about the qualities needed on any job would make it entirely feasible to assess with much greater accuracy than at present the fitness of employees to move ahead. These should be put into operation and seniority de-emphasized until it has been reduced to its proper proportions in determining promotion examination scores.

**Use Efficiency Rating Productively**—Efficiency ratings should be primarily a technique for establishing productive relations between supervisor and em-



ployee. The Ordway-Laffan rating plan, which is now in effect in New York's Civil Service, should be made the basis for a revised system that has as its main purpose regular supervisor-employee discussions of the quality and character of the employee's work. The development of the revised system should be a responsibility of the central personnel agency in co-operation with the Municipal Personnel Council.

**Use All Training Techniques** — Every type of training should be appropriately utilized. The City should be in a position to provide an expertly handled program of indoctrination and orientation for appointees. Formal City-wide courses of training should be instituted. Regular departmental classes should be undertaken. After-hours courses and local versions of the wartime "J"\* programs should be developed. A planned system of rotation through several administrative levels and several departments should be worked out for highly qualified personnel. Employee handbooks, organization and procedure manuals, other useful publications and house organs, and departmental libraries should be encouraged. In those limited spheres to which the service academy as a training device is applicable, the academy should be improved. However, the training program should not concentrate on requiring adults to attend conventional classroom sessions, but should instead be constructed around the use of the ordinary administrative machinery of the City.

**Clarify Responsibility for Training** — Responsibility for training should be

recognized as falling primarily on executives and supervisors at every level from the Mayor down, not upon any training specialists engaged by them. No lasting progress will be made in training until training has wholehearted supervisory and executive support, and stimulation. To be sure, a sufficient number of professional training experts should be provided at the appropriate levels of organization for the guidance and aid of the responsible officials. However, special efforts should be made to impress upon every supervisor the fact that most of the normal training that takes place in any organization occurs in the normal course of supervisory activity.

**Establish Liaison with Schools** — The central personnel agency should do all it can to establish close liaison with educational institutions in the City. As specialized agencies for training, these institutions are sometimes in a position to do a better training job for the departments of the City government than the departments can do for themselves. A considerable part of the training load of the City can be absorbed by these institutions (including the trade and vocational establishments as well as the academic schools and colleges, and universities) if some co-ordination of their work with the needs of the City is achieved. The central personnel agency should co-operate with the educational authorities to secure the best graduates for the municipal public service.

Co-operative planning should also encourage the use of formal educational facilities by the City for appropriate kinds of "off-the-job" training of its own personnel, and also the possibilities of granting City employees released time and credit service ratings, wherever appropriate, for attendance at

\*The highly successful job-training programs developed by the Training-Within-Industry Division of the War Production Board: Job Instruction Training; Job Methods Training; and Job Relations Training—known respectively as "J.I.T.," "J.M.T." and "J.R.T."



schools and institutions should be developed. Wherever it is clear that the formal educational institutions are better able to provide needed training

than are the departments and agencies of the City government, they should be brought into the in-service training program.

## SPECIAL PROBLEMS IN THE DEVELOPMENT OF PROFESSIONAL AND EXECUTIVE PERSONNEL

The City government operates in a constantly changing social, economic, and political environment. It therefore requires the ultimate in flexibility and adaptability. This means provision must be made to bring into the leadership group of the municipal public service the most vigorous and able individuals the City can find. The penalties of superannuation, and of lack of new blood and ideas at the leadership level, are exceptionally heavy and must be of continuing concern to the City's personnel system.

Leadership in the municipal public service is exercised by the professional, executive, and supervisory personnel. This group occupies the key posts, often determining the City's objectives and selecting the modes of achieving those objectives. Because of the vital character of this group, and because of the unique problem of staffing presented by it, one of the principal objectives of the municipal personnel program is to systematize the identification, development, and procurement of the required leadership talent.

### Present Practice

#### Lack of Executive Development Program

—The Municipal Civil Service lacks even the rudiments of a systematic program for executive personnel development. Neither executive and supervisory jobs nor potential executives already in service are identified. There are no pro-

grams for the cultivation of executive talent, and none for the procurement of professional, executive, and supervisory personnel. Professional development is regarded as a personal, individual problem for the professional employee of the City to solve on his own rather than as a City opportunity and City responsibility to improve the quality of its service to the public.

**Distorted Promotion Practices**—Promotion to executive and supervisory posts (of general administrative rather than a technical nature) is often at best a reward for competent performance and long service in a purely technical capacity, although such experience generally neither prepares a person for his new work nor indicates his ability to handle it. Promotion to executive positions has been further warped from its original purpose by the practice of filling such positions almost exclusively from within small organizational units. The practice of maintaining virtually insurmountable vertical barriers between organizational units at the bureau level and even lower prevails in the higher as well as lower levels and in every type of work in the municipal service. It is even less justifiable and more harmful at the upper levels than at the lower ones.

### Recommendations

**A City-Wide Executive Development Program**—The City should initiate as soon



as possible a City-wide program of executive development, including identification of those City positions which are of an executive or supervisory character and the location of potential incumbents for these positions. The men and the jobs should be brought together by a systematic program for development and utilization of this talent. Channels for "diagonal" promotion on the basis of relevant experience and demonstrated capacities should be opened, ending the current division of the reservoir of executive and supervisory talent into minute and inefficient segments. Many existing problems could be partially or wholly solved by more effective and frequent use of the present administrative service category (or the equivalent career group under the new classification plan), but the City should not necessarily confine itself to filling its higher ranks exclusively from within the municipal service.

**A Special Professional Development Program**—A special program for the development of the technical talent of

professional personnel (such as physicians, lawyers, engineers, and accountants) should be established. It should be conducted *in addition* to the executive development systems and should include positive encouragement of participation in professional societies, such as permission to attend meetings without charge to annual leave, and payment of expenses for those who are called upon to participate in panel discussions or to present papers.

Special interdepartmental in-service training plans for professional employees, covering the technical aspects of their work, should be drawn up.

The incentive pay increments proposed earlier should be recognized as of special importance to this group, for such rewards will make it possible to accord some tangible recognition of long and excellent technical service without necessitating promotion of the technical specialists to administrative posts for which they are not prepared and in which they therefore are often unsuccessful.

## AN EMPLOYEE RELATIONS PROGRAM

Disgruntled employees obviously do not make the best workers. As a matter of sound administrative practice, therefore, New York City would try to avoid, if it reasonably could, creating a dissatisfied public service. Furthermore, even if an unfairly treated staff performed as well as a fairly treated one (which is not the case), the City would nevertheless set fairness to its employees as a goal in itself. The purpose of an employee relations program for New York can therefore be said to include stimulation of high production by encouragement of high morale, gen-

eral improvement of communications throughout the governmental organization, and protection of the rights of City employees to take measures, within the limits of the general interest, which they might deem necessary to advance their own interests and welfare.

### Present Practice

**No Personnel Relations Program** — There is no City-wide policy on the handling of certain City-wide personnel relations problems, such as lateness, early quitting, unofficial coffee hours, washroom clubs, unauthorized absence,



and abuse of sick leave. Practice varies widely from department to department. There are provisions for dismissing or demoting members of the City Civil Service, but these are very rarely invoked even against incompetent and indolent workers because of the widespread belief that the procedure prescribed by law is intricate. This belief is an exaggerated impression growing out of unfamiliarity with the process, but it has neutralized this personnel tool for all practical purposes, and has resulted in retention of some employees whose performance and behavior do not warrant continued employment.

**Working Conditions Vary**—There is no City-wide policy on the work week and other conditions of work, with the result that these vary from department to department. The working quarters of many of the City's employees are more uncomfortable and depressing than seems justifiable even in the obsolete buildings in which some of the agencies are housed.

**Impeded Upward Flow of Communications**—The upward flow of communications has in many agencies been reduced, relatively speaking, to a trickle. There is no City-wide grievance machinery, and departmental systems can be found only in a few agencies. Even where they are found, the systems are rarely beyond the most rudimentary stages of development. Consequently, sources of irritation are not discovered until they have grown to a critical stage. Furthermore, the atmosphere that prevails in the municipal government tends to stifle inventiveness and suppress originality; not even so artificial an outlet as a suggestion system is to be found here.

**No Policy on Unions**—The City has no definitive policy on relations with unions and associations of municipal employees.

The public, the agency officials, the municipal civic servants, and the unions and associations are confused, and they do not know what to do when complaints arise. Issues that could be handled without much difficulty in their initial stages are therefore permitted to grow in size and complexity until they are forced upon the top administrative officials of the City, whose decisions show little practical consistency.

## Recommendations

**City-Wide Policy on Employment Conditions**—The central personnel agency of the City, on recommendation of the Municipal Personnel Council, should formulate City-wide policies on hours of work, lateness, absence, vacations, discipline, and other personnel problems. The rules on these subjects should not be uniform but equivalent, for fair and equal treatment does not mean identical treatment because all City employees do not work under identical conditions. Enforcement of the rules should be charged to the department heads; the central personnel agency should not take over work that the departments can do for themselves.

Dismissal and demotion practices should be corrected so that these sanctions are applied when needed; executives and supervisors should be educated in disciplinary procedures and methods, and specialized personnel officers in the departments and agencies should assist in this and other personnel matters.

**Establish Grievance Policy and Machinery**—The central personnel agency, in co-operation with the departments and agencies, and with the advice and assistance of the Municipal Personnel Council, should develop grievance policy and grievance machinery, which should possess the following characteristics in



order to fulfill its purposes: It should be a unified system with regular prescribed channels and procedures, embracing every department and culminating in top-level machinery for the City as a whole. It should provide for handling all types of complaints, including those arising from proceedings for dismissal for cause. It should cover complaints lodged by any employee of the City. It should protect the employee's right to have his case presented by a representative of his own choosing. The channels should flow upward through the organizational levels of supervision; they should not circumvent them. It should make available to those whose cases have come up through the regular channels, formal hearings at the apex of the grievance machinery pyramid. Appeal to the central personnel agency of the City should be permitted in extraordinary instances.

**Encourage Upward Communications Flow**—The central personnel agency of the City should explore additional means of encouraging the upward flow of communications in City agencies. The mechanism for handling grievances provides only for the negative side of the program. It is even more important to put into effect a plan for eliciting and utilizing the ideas, suggestions, and recommendations of City employees regarding any aspect of the functioning of their departments and agencies. Conventional suggestion systems reflect the failure to include provisions of this kind in the ordinary supervisory and administrative relationships of organization; what is needed is something broader and deeper, developed as an integral element in the structure of each City agency, designed to take advantage of modest as well as drastic proposals, to use every type of reward, and to dis-

courage suppression of innovations by pedestrian supervisors.

**Establish Counseling Systems** — The central personnel agency should encourage and help the departments and agencies of the City to establish personnel counseling systems. This furnishes an opportunity to deal with problems which may not necessarily have their origins within the City service itself (as well as with those that do have internal origins) but which have significant consequences for the service all the same.

**Clarify City Relations with Unions** — Relations between the City and unions or associations of City employees should be clarified: the City should eliminate the ambiguities now surrounding membership in unions or associations by putting into practice the policy laid down in the executive order of March 25, 1947, which declared that the general policy of the City is to leave every employee free to join any union or association of his own choosing. Unions and associations have important roles to play in the public service, as elsewhere, not only in bargaining within the limits of the discretion conferred even now on administrative officials, but also in promoting the interests of their members through participation in the formulation of laws affecting them and through the provision of social services.

The City should also recognize explicitly the right of its employees to bargain collectively with the heads of their departments and agencies, and the results of such negotiations should be embodied in written memoranda of agreement; the discretion of responsible City officials is broad enough to make this process fruitful, and ratification of agreements by the City Council or the Board of Estimate would resolve the fears of infringement on the "sover-



eignty" of the municipal corporation.

To these ends, there should be established in the central personnel agency a labor relations staff which should: (1) develop and revise, for approval by the Mayor and the Board of Estimate, a definite labor relations policy for the City; (2) assist the Mayor and the agency heads in the mediation and arbitration of labor disputes involving City employees; (3) maintain liaison with the State and Federal labor agencies, calling upon them for assistance in critical situations; and (4) develop a system of labor-management councils in the departments and agencies, and a central council with power to make recommendations on personnel policies and conditions of service. The councils will

work best where there is a single union representing a majority of the employees in an agency, or even where two unions together represent more than half the workers. The idea will be more difficult of application where there are no unions or where employees are divided among a large number of highly specialized unions, in which case representation on the councils will be difficult to determine. It is clear that the system cannot be constructed abstractly in advance and imposed uniformly throughout the City government. It will have to be adapted to circumstances. But there are areas in which it can profitably be put to work almost at once, and this opportunity should not be neglected.

## ORGANIZATION FOR PERSONNEL ADMINISTRATION IN NEW YORK CITY

The Mayor is, and must continue to be, the chief personnel administrator of the New York City government, for the management and direction of the City's governmental programs are inseparable from the selection and management of the officers and employees who carry out those programs. In turn, the heads of the City departments and agencies are each the chief personnel officers of their respective agencies. This being so, the first purpose of the system for personnel administration in New York City is to provide for the Mayor and his department heads the administrative arrangements which will enable the Mayor and the chiefs of his departments to carry out their personnel responsibilities. Not less important objectives, however, are protection of the merit system against the incursions of the patronage systems; prevention

of the growth of dry rot and bureaucratic practices among the City's agencies and employees; and provision of a highly visible and responsible system of personnel administration.

### Present Practices

**Lack of Personnel Staff**—Neither the Mayor nor, with one or two exceptions, the department heads have any personnel staff to assist them in the discharge of their responsibilities as chief personnel officers of their respective jurisdictions. Custom has not only obscured from them their responsibilities in this regard; it has also denied them the authority and the necessary tools of management.

**Limited Personnel Program**—The Municipal Civil Service Commission is, as a product of tradition and as a result of the default by the City executives, the



their to the responsibility for such personnel programs as the City does have. But the Commission has not been able to develop a satisfactory personnel program for the City government. It operates on the periphery of the City government in relative obscurity. It is a budgetary as well as an organizational orphan. It has therefore steadily lost its personnel powers to the Bureau of the Budget, which has assumed more and more the responsibility for making personnel decisions. It has narrowed rather than broadened its assignment as a personnel agency. And it operates under the State Civil Service Law, a statute not designed for the personnel needs of the metropolis and in widely admitted need of revision and codification.

**State Supervision Is Cursory**—The State Civil Service Commission has no program for remedy of these shortcomings in New York City personnel administration. State supervision is sporadic and incomplete, being limited only to legal and formal aspects. The State Commission confines itself to approving or rejecting proposed changes in the Civil Service Rules of the City, to reviewing the minutes of the City Commission, and to occasional field audits.

## Recommendations\*

**New Personnel Machinery**—The existing machinery for personnel administration in New York should be replaced. The Civil Service Commission should be abolished. Its rule-making and administrative powers and duties should be transferred to a new "Personnel Department." Its responsibility for protection of the merit system should be assigned to an Advisory Board for the New York City Public Service. Its

quasi-judicial functions should go to an administrative tribunal within the new Department.

**A Department of Personnel Administration**—A Department of Personnel Administration should be headed by a personnel administrator reporting to, and directly responsible to, the Mayor. He should be appointed by the Mayor from a panel of nominees (not less than five nor more than ten) presented to the Mayor by the Advisory Board for the New York City Public Service. These nominees should be outstanding administrators designated by the Advisory Board after a systematic canvass of personnel executives throughout the country. The salary of the personnel administrator should be broadly equivalent to that paid to the heads of other staff agencies of the City government. His term of office should be at the pleasure of the Mayor, and his successor should be appointed and serve in the same manner.

The Department of Personnel Administration should be responsible for all the functions of a modern central personnel agency, for which purpose it should be organized into a Bureau of Classification, a Bureau of Salary and Wage Administration, a Bureau of Recruitment and Selection, a Bureau of Career Development, a Bureau of Employee and Labor Relations, a Board of Personnel Appeals, a Personnel Research and Planning staff, and a Personnel Records and Reports staff. It should be adequately financed and adequately staffed; with all the functions here proposed, it would require a budget and staff considerably larger than the present Commission's. Using the standard set by the provisions of the New Philadelphia Charter, the Department would have a budget amounting to two

\*ED. NOTE: See Section 8 for the recommendations approved by the Committee.



and a quarter million dollars (as opposed to less than a million at the present time).

**An Advisory Board** — The Advisory Board for the New York City Public Service should be appointed by the Mayor and should consist of seven outstanding citizens representing in themselves a strong public interest in, and commitment to, the merit system. They should be chosen from among the City's leaders in civic organizations, educational institutions, labor, business, and professional organizations. Appointment should be made from a panel nominated by the presidents of the leading private universities in the City; Columbia University, Fordham University, and New York University. No member of the Advisory Board should be a City employee or official appointed or elected; an official or direct representative of any organization of City employees; a member or officer of any local, State, or national political party committee; or a candidate for any elective public office. They should serve for five years, with overlapping terms, and should be eligible for reappointment.

At least annually, in a public report, the Advisory Board should furnish, from the point of view of the general public, advice, guidance, and assistance to the personnel administrator on all matters of personnel management, including specifically its formal assessment of the City's personnel system. The Board should serve as a link between the community and the City's permanent career staff, so as to broaden public understanding of the staff and to make the staff a more responsive and responsible part of the community. With the full assistance of the Personnel Administrator, the Municipal Personnel Council, and the employee or-

ganizations, the Board should proceed immediately to develop a code of ethics for the public service. Above all, it should serve as the guardian of the merit system.

In order to discharge all these responsibilities, the Board should be provided with a full-time executive secretary, who, in turn, should have a small permanent staff. However, the Board should be empowered to seek and receive, for its own independent use, an appropriation of City funds for extensive audits or investigations. It should meet at least monthly and on call of the chairman, the personnel administrator, or four members of the Board.

**Agency Personnel Directors**—The top management staff of every department and agency should include a personnel officer designated the agency director of personnel. He should report to and be directly responsible to the head of the agency for the personnel programs and policies of the agency. He should be in the competitive class, chosen after an examination establishing his executive and professional competence in personnel administration. In agencies and departments of over 500 employees, he should have a professional and clerical staff large enough and sufficiently financed to carry out, with the advice and collaboration of the Personnel Department, a full personnel program. As a general standard for the size of his staff, the Federal guide of one member of the personnel staff to one hundred and three employees, or the business corporation ratio of one to one hundred, could be used. In smaller agencies, the director of personnel would need to depend more upon the central Department of Personnel Administration for professional personnel assistance and less upon a staff of his own.



**A Municipal Personnel Council**—There should be established, under the direct leadership of the personnel administrator, a Municipal Personnel Council consisting of all agency and departmental directors of personnel in the City government, and a representative of equivalent rank from the Bureau of the Budget. The personnel administrator should serve as chairman *ex officio* of the Council. The Personnel Council should act as a professional advisory group to the personnel administrator on all major personnel problems of the City government. It should be consulted, and its formal advice required, upon all major personnel programs and policies before their installation by the personnel administrator, although the latter would retain full authority and responsibility for the final decision. The Council

should be equipped to carry out these responsibilities by the provision of a small, permanent secretariat of professional personnel specialists and adequate clerical assistance.

**State Commission Leadership** — The New York State Civil Service Commission should be encouraged to exercise more of its leadership responsibilities for the improvement of personnel administration in New York City and for safeguarding the merit system in the City. These responsibilities can be discharged only through annual, or more frequent, audits of New York City personnel administration, including systematic and thoroughgoing field checks. The Advisory Board, civic organizations, and employee organizations should undertake to foster this kind of State Commission leadership.

## CONCLUSION

This complete program of personnel administration may cost more than the existing system, although it is impossible for any one to say how much the City does spend at present through an unco-ordinated, unproductive and, for the most part, invisible and irresponsible personnel system. But it is crystal clear that the City is now being penny wise and pound foolish in all of its general management facilities, perhaps most of all in its personnel management. A personnel administration for the government of New York City, comparable to well-managed personnel programs in

other large governmental jurisdictions and in large business corporations, would be worth in dollars saved many times the dollars needed to finance it. A carefully selected, properly classified, well-trained, highly motivated Civil Service with pride and confidence in its worth and its performance is indispensable to a City government charged with the responsibility of managing programs of crucial importance to all its citizens and costing them as taxpayers almost a billion and a half dollars a year.

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## SECTION 7

# ORGANIZATION

By

DIVISION OF ANALYSIS, BUREAU OF THE BUDGET

The Municipal Civil Service Commission constitutes the personnel servicing agency of the City, performing the functions prescribed by both State and local law. In many of its areas of operation, it is under the supervision and direction of the State Civil Service Commission. However, as a City agency governed by the City Charter and Administrative Code, its Commissioners are appointed by the Mayor, its funds are provided out of the City budget and reimbursed in part out of transit revenues, and its permanent personnel are drawn from the ranks of the City Civil Service.

All rules and amendments promulgated by the Municipal Civil Service Commission and all regulations for appointment and promotion are valid only after a public hearing and upon approval of the Mayor and the State Civil Service Commission. They must be filed with the Secretary of State within 30 days after final approval by the State Commission. The Municipal Commission is also required to make all

examinations public and to publish all rules. Both examinations and rules are subject to inspection by the State Commission. The State Commission exercises further control by requiring annual and periodic reports, as well as a copy of the roster of classified City service, when desired.

The State may remove a Municipal Civil Service Commissioner and appoint his successor, or may appoint a Commissioner if the municipal appointing authority neglects to do so within 60 days. The State Commission is also empowered to amend or rescind any rule, regulation, classification, examination, or eligible list of a municipal commission, with proper notice and statement of justification, and allowance for protest of its action.

As set forth by the State Civil Service Law, the four classifications of the offices and positions of the City are: exempt class, competitive class, non-competitive class, and the labor class.

The three Commissioners are appointed by the Mayor for overlapping terms of six years; no more than two Commissioners may be members of the same political party. The Commissioners elect one of their number to act as President of the Commission.

The duties and responsibilities of the Commissioners fall into three main

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Digest from "The City of New York Municipal Civil Service Commission, A Study of the Functions and Organizational Structure of the Civil Service Agency of the City of New York," July, 1951, and "The City of New York Municipal Civil Service Commission, A Study of the Administrative Procedures and Space Allocations and Requirements of the Civil Service Agency of the City of New York," September, 1951, both by Division of Analysis, Bureau of the Budget, City of New York.



categories: quasi-judicial, quasi-legislative, and administrative. Their judicial functions apply to appeals from examination ratings, or from service ratings, hearings concerning character and fitness, violations of the Civil Service Law, and removal of employees on departmental charges.

The quasi-legislative functions relate chiefly to the establishment, maintenance, and amendment of the Commission's regulations concerned with appointments and promotions and other matters specified in the Civil Service Law. These functions have the force and effect of law.

The administrative duties and responsibilities of the Commissioners are to hold entry and promotion examinations for service with the City, as well as qualifying examinations for licenses; to maintain employment and re-employment lists; to regulate transfers, service ratings, and separations of employees; to check and certify payrolls; and to establish and maintain a classification plan. They must also arrange for recruitment and selection of employees, preparations of reports, and dissemination of information concerning public personnel problems.

The Municipal Civil Service Commission had 230 permanent employees on July 1, 1950. Temporary special examiners, monitors, and readers are

engaged when necessary. The budget for 1950-1951 provided \$992,742 for the operation of the Commission. With the exception of the Commissioners and Secretary, all permanent employees are in competitive Civil Service.

The present emphasis of the Commission is on its policing responsibilities, for example, in the checking of payrolls, pursuant to a State law prohibiting payment of salary to someone not appointed in accordance with the Civil Service act and rules. During recent years, however, the marked increase in demand for qualified employees has stimulated an extended re-examination of the significance of personnel programs in all public employment. Liberal vacation and sick leave policies, retirement benefits, promise of stable working conditions—once an attraction to competent Civil Service employees—are now offered by industry together with other liberal fringe benefits, higher pay, and more rapid promotion. Obviously, to continue to function efficiently, government must establish a broad personnel program based on modern concepts of recruitment, training, classification, and research. Surveys at Federal, State, and local levels of government agree that the emphasis should be shifted from the negative attitude of safeguarding rights to the positive one of implementing a career service.

## A CENTRAL PERSONNEL AGENCY

An examination of the functions of the Civil Service Commission shows that growth has not always kept pace with municipal requirements. Some existing functions must be expanded and others must be added to make the Commission an instrument of municipal

government efficiency. Those functions that should be expanded are recruitment, public relations, classification, probation, service ratings, and transfers. Those which should be added are training, education, research, statistics, accident control, an employee sugges-



tion system, and uniform vacation and leave policies. It is the considered view of the Division of Analysis that a central personnel agency must be developed to serve the City of New York.

### Functions to Be Expanded

**Recruitment** — Recruitment into the competitive class and labor class of employees is a weak link in the present examining and selection processes.\* An expanded and positive recruitment program, utilizing every available technique to secure employees to fill vacancies and replace provisional personnel, is absolutely essential.

Recruitment for the noncompetitive class is now handled by the individual departments. The personnel agency's activity should extend into this area, if only in an advisory capacity. Similarly, much valuable knowledge and experience at departmental levels can help to develop centrally controlled recruitment. The central personnel agency's regular activities should include an effective employment-public relations program.\* Evaluation of sources of prospects should be made to determine which are most productive.

**Classification**—The present classification plan is limited to four classes of titles in which all City positions are grouped. Twenty-six hundred such titles are allocated to the four classes required by State Civil Service law. As of March 31, 1950, the competitive class consisted of 46 parts or services and 2,193 titles; the exempt class, 249 titles; the non-competitive, 134; and the labor class, 24. At present the Civil Service Commission has no job specifications for each title in each classification. The

nearest approach is the file of advertisements for examinations, which set forth duties, responsibilities, requirements, etc.\*\*

**Probation**—The rules of the Municipal Civil Service Commission provide that there shall be a probationary period of six months for all original permanent appointments. Almost all employees appointed on probation in New York City automatically become permanent after the probationary period. In the few cases in which employees are charged with unsatisfactory performance, they are almost invariably permitted to resign. They can, therefore, apply for restoration to the list and possibly be employed again in another City department, despite the fact that there may be a serious objection to their re-employment which is not disclosed because no probation report is filed in the present procedure.

Recently, the Commission adopted a practice of investigating the conduct and work of the employee in the department from which he resigned when he requests reinstatement. Since the former immediate supervisor may no longer be in the employ of the City or may be unavailable, it would be preferable to require a report from the department with respect to every employee who resigns during the probationary period.

The central personnel agency must take an active part in educating the appointing authorities in the use of their prerogative. First, it should urge and foster periodic orientation conferences between the probationer and his supervisor and, second, insist that pro-

\*ED. NOTE: See Section 5 of this chapter for the digest of the Richardson, Bellows, Henry & Company Report on recruitment and examination.

\*\*ED. NOTE: See Section 1 of this chapter for the digest of the Griffenhagen Report on classification, and Section 3 for the digest of the Report of the Formal Hearings Board on the Griffenhagen survey.



bationers who fail to live up to required standards be dropped. The Commission should require a positive certification of satisfactory employees and a factual report on any unsatisfactory employees, whether they resign during the probationary period or are dismissed at its end.

**Service Ratings**—The service rating system administered by the Municipal Civil Service Commission is based on the Ordway-Laffan plan adopted by the City in 1936.\* Supervisors prepare descriptive reports only on employees who do exceptionally good or poor work. These reports are reviewed by a Personnel Board in each agency and finally rated in the Commission by a rating board of Civil Service examiners.

**Transfers**—The Commission's present concern is to make sure that appropriate Civil Service rules and regulations are observed when a transfer between City agencies is contemplated. It participates in no other way. A working force as large as that of New York City must have some fluidity to accommodate necessary adjustments required by misplacement, unused skills and experience, or unadaptability. A type of transfer policy, known as adjustment placement, is specifically designed to meet such situations. It allows the central personnel agency itself to stimulate or facilitate transfers and helps to achieve the goal of the right man in the right job, with consequent benefits to morale and efficiency. A policy of this kind implies that central personnel has information relative to vacancies and available candidates. The devices to be used for compiling information should be determined by the central agency.

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\*ED. NOTE: See Section 5 of this chapter for the Richardson, Bellows, Henry & Company discussion of this plan.

## Functions to Be Added

**Training and Education**—Training programs in City departments are now limited to the uniformed forces. No City-wide policy or plan exists for orientation of new employees, in-service training, refresher courses, or training for promotion. To implement this phase of personnel administration, the development of a training policy should be definitely assigned to the central personnel agency which would advise, stimulate, and co-operate with operating departments.

**Accident Control**—Safety methods on a planned basis were introduced on March 1, 1948, and 21 major City departments with approximately 150,000 employees are now included in the program. The program is conducted and co-ordinated by the Division of Analysis of the Bureau of the Budget. On a permanent basis, such a program should be conducted by a personnel agency rather than by an administrative management unit, such as the Division of Analysis. The City's accident control program should therefore be included among the activities of the central personnel agency.

**Research** — A research division, devoted to practically every phase of the employment cycle from recruitment to separation or retirement, should be an integral part of the central personnel agency.

**Suggestion Systems and Merit Awards**—The only suggestion system in New York City is that of the Department of Sanitation, the only reward being a certificate of merit or letter of commendation. A proposal for a City-wide suggestion plan has been made by the Division of Analysis, who recommend that cash awards provide the necessary stimulation, incentive, and recognition



to promote full employee participation. This is logically an activity of the central personnel agency\*

**Administration of Vacation and Leave Plan**—Since policies relating to vacation, sick leave, other types of absences, overtime, supper money, etc. are open to varying interpretations, their application varies within different City agencies. A uniform pattern for all City employees will reduce the administrative problems of the separate departments and improve the morale.

**The Personnel Council**—Both the Fed-

eral and state governments have created Personnel Councils to help satisfy the need for a Civil Service agency that will promote uniformity of personnel procedures for their employees. Their function is primarily educational; their objective is to improve personnel practice in the operating departments in the interest of higher morale and satisfaction among employees. The establishment of a Personnel Council within the City central personnel agency will bridge the gap between the latter and the operating units.

## ORGANIZATION

Briefly, the present organization of the Civil Service Commission may be described as a three-man body functioning through two main divisions: the Administrative Division headed by the Secretary of the Commission, and the Examining Division headed by a Director.

### Important Organizational Units

**Administrative Division** — The Secretary of the Commission, who is appointed by the Commission, is in the exempt class of Civil Service. His duties are divided into two categories. The first includes his responsibility for enforcement of the rules and regulations of the Commission and his responsibility for the revision, editing, and distribution in convenient form of such rules and regulations. Further, he must set up the calendar for the Commission's meetings, keep minutes of its proceedings, and he must supervise the Execu-

tive Stenographic Bureau which performs the mechanical phases of these operations. This first category of responsibility relates primarily to the Commission's status as a quasi-judicial, quasi-legislative body.

The second category concerns internal administration. In the areas of personnel, budget, and public relations, he acts for the Commission as a whole. As over-all head of the Certification, Investigation, Payroll, Information and Records, and Fiscal Bureaus, and the Machine Tabulating Unit, he is in charge of the Administrative Division of the Commission. He performs the duties of the personnel director and handles the public relations of the Commission. He is also responsible for submitting the annual budget for the Commission to the Budget Director and for preparing the annual report of the Commission. Finally, he has jurisdiction over the assignment of offices and equipment.

\*ED. NOTE: The Board of Estimate has approved an appropriation of \$10,000 to the Civil Service Commission for personal and nonpersonal services for launching the program, and a Suggestion Award Board has been appointed by the Mayor.

**Examining Division**—The Director of the Examining Division has complete administrative charge of the 53 examiners and 48 clerical employees mak-



ing up the permanent personnel of this division. He is directly responsible to the Commission for examination policies and, subject to this top supervision, is entirely in charge of the examinations, except those conducted for Civil Service Examiner. In the areas of budgetary, public relations, and personnel matters affecting his staff, he is responsible to the Secretary of the Commission.

The bureaus and units of the division are of two kinds. Those headed by examiners deal with the substantive parts of the examining process, namely, the three Examining Bureaus and the Medical and Physical Bureau. Those bureaus which service and facilitate the procedural aspects of several parts of the examinations are the Examining Service Bureau, Service Rating Bureau, Control Unit D, and the Advisory Board.

**Auxiliary Committees**—There are three committees which act in an advisory capacity: (1) Committee on Laws and Rules which interprets all Federal, State, and Municipal laws and Civil Service rules as they apply to the administration of the Civil Service Commission; (2) Committee on Manifest Errors, composed of two panels of examiners, one to consider appeals from candidates as to their ratings in various parts of an examination, the other to hear appeals from employees on service ratings; (3) Committee on Veterans, composed of the heads of the Bureaus of Certification and of Service Rating, the Civil Service Examiner (law), and the Secretary of the Commission, to interpret veteran legislation and to set policy relating to veterans.

### Three-Man Commission

The present three-man Municipal Civil Service Commission is wholly re-

sponsible not only for policy making in its quasi-judicial and quasi-legislative roles but also for administration of the City's personnel program. Effective discharge of the broad functions of planning, direction, co-ordination, and control is most difficult of achievement for the Commission.

When a three-man Commission is required to take action on routine matters, the delay in the over-all operations of the agency is only too evident. A far more significant fact than delay is that the actual responsibility for decisions on these matters rests with the bureau heads rather than with the Commission. Delegating this responsibility would make for sounder organization. It is suggested that these routine items be removed from the Commission's calendar to effect official recognition throughout the Commission, especially on the part of the bureau heads involved, that full responsibility in these matters rests with them.

**Major Units** — Since the Commission itself is a three-man body, no clear assignment of responsibility to a single individual for the over-all management and direction of the agency is made. This creates conflicts in administration and between the authorities of the Secretary and the Director of the Examining Division. There appears to be no single place in the organization where responsibility for expediting the entire operation is lodged. A lag between the date of advertisement of the examination and the certification of eligible lists results in the loss of many desirable potential employees and costly repetition of examinations. The rules and regulations of the Commission and the Civil Service Law make no specific reference to this total function or its exercise by any specific administrative



head. Since the Secretary has not assumed this duty—nor has it been delegated to him except by implication—and since the Commission as a three-man body is not set up to discharge it, there is an administrative vacuum in this area.

**Subordinate Units**—Below the top level of the Municipal Civil Service Commission the organizational structure is adequately set up to perform the present functions of the Commission.

### Organizational Trends

Experience on many levels of government has demonstrated the wisdom of drawing a well-defined line between policy determination and policy execution. The former can be accomplished by a lay commission, the latter must be a function of a technical staff. The problem involved is the decision as to where policy determination ends and policy execution begins. Several plans attempt to solve the question by:

- (1) Abandonment of the Commission form in favor of an executive head assisted by a part- or full-time board.

- (2) Assignment of administrative responsibilities to a single official.

- (3) Provision that the administrator be qualified for the task and preferably be selected by competition.

- (4) Appointment of such official by the executive head of the government, thereby permitting greater concentration of authority, integration of organization, and more direct control of operation.

Of the many forms of organization that would provide the benefits of a single administrator, retain the protection of the merit system, and be in harmony with the spirit of the Civil Service Law, three have been selected for consideration.

**The Personnel Administrator and Chairman**—This plan preserves the three-member Commission but provides that one of the Commissioners act as chairman, vested with full responsibility for administration. It has the advantages of providing for unified direction that eliminates delay in action upon important matters, and of centering planning, co-ordination, and control of operations in one individual. Its disadvantages are that the member of the Commission appointed to act as chairman would have full-time duties and responsibilities in both policy-making and administrative capacities and that the pressure of work would be far too great to carry out such an assignment effectively. Such a member would be in the position of judging himself, since the Commission would have power to review actions of the administrator or chairman. Also, lack of continuity of administrative policy would occur as a result of changing administrations.

**The Administrator-Advisory Board** — This plan provides a single administrator with full responsibility for both internal management and for policy, judicial and legislative duties, to be appointed by the Mayor through an open competitive examination. A part-time advisory board of private citizens would also be appointed by the Mayor to investigate the administration of the merit system and to present recommendations to the administrator and the Mayor. The advantages are:

- (1) It provides for a single head of the personnel agency for performing all its functions, thus providing continuity of administrative policy.

- (2) It guarantees a qualified person in personnel management.

- (3) It is predicated on the fact that individuals in many public offices are entrusted with more important



duties than the quasi-judicial and quasi-legislative functions which this plan commits to the administrator.

The disadvantages are:

(1) It abandons the use of the Commission for the purpose it was designed to meet, namely, to protect the merit system.

(2) The personnel agency loses the prestige, authority, and statutory mandate of the Civil Service Commission.

(3) Deliberation in the quasi-judicial and quasi-legislative functions can be more successful as a result of joint thinking by Commission members.

#### **The Part-Time Commission-Administrator**

—This plan provides a three-member Commission on a part-time basis for quasi-judicial, quasi-legislative, and “watch dog” duties; and an administrator, appointed by the Mayor through an open competitive examination, with full responsibility for planning, direction, co-ordination, and control. The advantages are:

(1) It concentrates administrative authority and responsibility in a single individual.

(2) It guarantees a trained and experienced person in personnel management.

(3) The Civil Service Commission is retained and is responsible as an appellate body to hear complaints and appeals from employees, as a rule-making authority to draw up the rules and regulations for the personnel system, and as an executive body to review the work of the administrator, as a representative of the State and the public to assure the proper administration of the merit system, and as an advisory body to the Mayor, the Board of Estimate, the Council, and the public.

(4) It provides for unified direction, and quick action by a single head

where delay or deliberation would affect operation.

The disadvantage is that it requires a distinction to be made between the duties and responsibilities of the Commission and those of the administrator. Since this is not always clear, differences of opinion are possible.

The Federal and State plans of organization may also be considered specifically and compared to the possible plans given in the preceding paragraphs.

**The Federal Plan**—The organizational form of the Federal central personnel agency, which was reconstituted, follows the Personnel Director-Chairman arrangement.

**The State Department of Civil Service**—The central personnel agency of New York State is headed by a Civil Service Commission composed of three members appointed by the Governor. The Commission in turn appoints an Administrative Director and an Assistant Administrative Director, both of whom are in the competitive class of the State Civil Service. The Administrative Director is responsible for the administrative activities of the Department of Civil Service, including supervision and direction of the Examinations, the Administration, the Personnel Research, Classification and Compensation, Training, and Municipal Service Divisions.

The State Commission concerns itself with a very limited area of administrative functions, authority and responsibility for many of which are delegated to the Administrative Director. It has been recommended that ultimately all nonjudicial and nonlegislative responsibilities be vested by statute in an executive head, not a member of the Commission, appointed by the Governor.



## PROPOSED PLAN FOR NEW YORK CITY

A modified Commission-Administrator plan should be the basis for an enlarged personnel agency in the City of New York. It is proposed that in its establishment, its basic concept be comparable to that of the New York State organization, with modifications to meet the particular problems of the City.

In the State organization, the Commission heads the Department of Civil Service and is responsible for administrative functions. Responsibility is delegated, however, to the administrator, an arrangement which would seem most suitable to the City of New York because it establishes an essential administrative position with authority commensurate with responsibility, while not requiring too radical a departure from the organizational form which protects and develops the merit system. This authority may be delegated by either rules or regulations of the Civil Service Commission to the Personnel Administrator. The delegations should be by regulations.

In addition, the rules of the Commission should have a provision that these regulations can be amended or added to only after a public hearing and approval by the Mayor, thus providing the necessary stability in delegation of powers and duties to the Personnel Administrator, and at the same time avoiding the necessity of resorting to the greater time-consuming procedures required for modification by rule or statutory enactment.

The organizational and functional changes recommended to establish the plan proposed for the City of New York provide for:

(1) The creation of a City Department of Civil Service headed by the Civil Service Commission.

(2) A three-man Municipal Civil Service Commission appointed and constituted as at present.

(3) A Personnel Administrator to be appointed by the Commission from a list of eligibles established through competitive examination.

(4) The delegation of authority to the Personnel Administrator for carrying out the personnel program of the City in compliance with the Commission's rules and regulations.

(5) A Secretary of the Municipal Civil Service Commission to function as head of the Office of the Secretary.

(6) The establishment of the following bureaus, units, and positions within the Department of Civil Service: Classification, Recruitment and Public Relations, Research (including a Suggestion Award Clearing Unit), and Training (including an Accident Control Unit) Bureaus; an Administrative Analysis Unit; and a Director of the Administration Bureau to relieve the Personnel Administrator of direct supervisory control of the six operating units.

(7) A Municipal Personnel Council to serve as liaison between the Department of Civil Service and the operating heads of departments and agencies, to promote uniformity of personnel practices and procedures for City employees, and to make practical suggestions for improving personnel management in the City.

The major changes would enable the Department of Civil Service to develop a real career service in the City. They would assure a continuity of execution of administrative policies by delegating authority to a permanent Personnel Administrator.



By relieving the Civil Service Commission of administrative duties, which will be delegated to the Personnel Administrator, the proposed plan strengthens its quasi-judicial, quasi-legislative, investigational, and policy-making functions. The Commissioners would make and amend the rules and regulations governing Civil Service, hold hearings with respect thereto, hear and decide appeals from employees and applicants, order and conduct investigations to ascertain whether its rules and regulations are being carried out, and have over-all control of the central personnel agency.

The Secretary of the Civil Service Commission will continue to be appointed by the Commission and will be in charge of the clerical and secretarial activities required to conduct its business. To make available to him the secretarial and stenographic personnel necessary for his duties, the Executive Stenographic Bureau will be under his supervision and will be called the Office of the Secretary.

Advice and assistance from the Administrative Analysis Unit acting in a staff capacity to all units in the Department as directed by the Personnel Administrator will make for greater co-ordination and efficiency. The reactivation of this unit originally created in 1947 will be in line with the recent directive of the Mayor dated March 20, 1951, wherein responsibility for the success of the City's Management Improvement Program was placed directly upon the head of each agency.

The three Advisory Committees—on Manifest Errors, on Laws and Rules, and on Veterans—which now function as advisory bodies to the Commissioners will continue to perform the same duties for the Personnel Admin-

istrator. The Personnel Administrator will be a member of each committee.

The committees will report their findings and recommendations to the Personnel Administrator, who will act on such matters as come within his jurisdiction and refer to the Commission whatever affects the areas with which it is concerned. This arrangement will make for a more expeditious handling of administrative affairs.

The major change in the Administration Bureau will be in its supervision rather than in its composition. It will consist of the present organizational units with the exception of the Executive Stenographic Bureau.

A new position of Director of the Administration Bureau, under the general direction of the administrator, will plan, direct, co-ordinate, and control the work of the Certification, Payroll Fiscal, Investigation, Information and Records, and the Machine Tabulating Divisions. Another of his duties would be the assignment of offices and equipment to the personnel of the Department.

The proposed plan of organization reflects the existing setup of the Examining Bureau with negligible change. (The unit now called "Control Unit D" is renamed "Office of the Director," as being more descriptive of its duties.)

### **New and Expanded Personnel Functions**

Where the expanded activity is sufficiently related to work in which an existing unit is engaged, it is assigned to such a unit.

The Service Rating Division at present deals with the service records of all classified employees and acts as liaison with operating departments. An educational program for the more effec-



tive and widespread use of service ratings in the departments, to stimulate the interest and increase the efforts of the average and below average employee, would be a normal activity of this organizational unit.

Since the probationary period constitutes a record of the employee's activities during his first six months of employment, it is closely allied to any service rating which he will obtain after the trial period is over. The function should be placed in the Service Rating Division.

Wider development of transfer policy by the central personnel agency will result in an available list of employees for appointment to various positions in the City. Requests for filling of vacancies come to the Certification Division, and it maintains other employees lists such as preferred, promotion, and open competitive lists of eligible candidates. Therefore, it would be within the scope of this division to carry out the transfer policies and procedures.

For most of the new or expanded functions proposed for the Department of Civil Service, it is necessary to set up new organizational units. In some instances, such as in classification and recruitment, activities are carried on but require so much expansion that an effective job can be done only through separate units. In the remaining areas, neither the function nor the unit now exists.

A Recruitment and Public Relations Bureau should be set up, the director to be directly responsible to the Personnel Director for carrying out the broadened programs of the Department and for co-ordinating the procedures through which the various units within the Department perform their respective duties relating to this function.

The extensive classification and pay plan study by outside experts, now nearing completion, will require continuing maintenance and amendment to reflect the actual classification of every individual position in the City service at any given time. Sufficient staff and a head of a Classification Bureau responsible directly to the Personnel Administrator will insure that this personnel program will be firmly established and maintained.

The degree of active participation of the central agency in the training programs should be weighed against the primary objectives of surveying and analyzing training needs, advising, stimulating, and working with operating departments in the development of training programs within the agencies themselves, and co-ordinating training activities to avoid duplication and gaps. The direction of the training program and its implementation in the City's agencies will be in the hands of the director of the Training Bureau who will be directly responsible to the Personnel Administrator.

With the establishment of the Department of Civil Service, the present Accident Control Program should be transferred from the Division of Analysis to the new Department and placed within the Training Bureau as a separate unit.

Personnel research applied to matters not peculiar to the work of individual departments is primarily a responsibility of a central personnel agency. The Research Bureau should develop testing, interviewing, and rating techniques, and study material required for the formulation of policies on probation, transfers, attendance and leaves, conduct and discipline, separation, grievances, and similar matters.



Organizationally, the head of the Research Bureau should be directly responsible to the Personnel Administrator.

The Employees Suggestion Program for the City of New York, as adopted, should be placed under the Research Bureau because its activities will be more closely related to the function of

research than any other bureau in the Department. The formulation of standardized procedures covering vacation, attendance, and leaves for City employees, to be observed across departmental lines on a City-wide basis, should be one of the first studies assigned to the Research Bureau.

## ADMINISTRATIVE PROCEDURES AND SPACE UTILIZATION

During the past few years the Municipal Civil Service Commission has emphasized mechanization of its clerical operations. This has been accomplished by a gradual adaptation to electrical tabulating equipment of operations previously performed manually. Most of the work involved in the processing of applications, issuance of notices, compilation and computation of examination results, and the preparation of eligible and certification lists, is now performed by means of tabulating equipment. In the development of this type of operation, the Machine Tabulating Unit, which is directly responsible to the Secretary of the Commission, has become not only a central servicing unit but also an important factor in coordinating much of the administrative functions of the Commission.

In several areas further improvements can and should be made to expedite clerical processing and increase operational efficiency. Some of these areas are limited to the internal workings of the Civil Service Commission; others extend to other City departments, affecting their selection procedures with considerable influence on the type of personnel they are able to bring into their service.

### Certification Procedure

Results of investigations and qualifying tests, and the reasons for declination or rejection of certified eligibles, are recorded on the lists of eligibles maintained in the Certification Bureau. Lists are made up of tabulating cards, with one card for each eligible which becomes the certification record card.

With few exceptions, the posting of data on the certification record cards is now done by hand by several employees in this bureau. Since this operation can be performed effectively on electrical tabulating equipment and the records now used are on standard tabulating cards, the machine posting method should be used and such data should be keypunched into the certification record cards for the selection of certifiable eligibles and the preparation for certification lists.

The Certification Bureau maintains revised certification cards for each eligible list established prior to January 1, 1951, showing the revised standing of each eligible as affected by the new veterans preference allowance. These are used for the preliminary selection of eligibles, and final selection is made after referring to the old certification



cards or ledgers, on which all current availability and eligibility data are recorded. Since the names appear here in different sequence, cross reference is cumbersome and inefficient. It is recommended that the eligibles' original and revised list numbers be noted on both cards (revised and original) at the time of first use.

Certification record cards are frequently withdrawn for use by the Certification Bureau staff. For the purposes of control and to facilitate location of these records, a charge-out system should be installed.

### **Preparation of Lists and Reports of Dispositions**

In the preparation by the Certification Bureau of listings of eligibles to be certified for consideration by the various City departments, the certification record cards are scanned by a clerk who selects a predetermined number of eligibles, and then prepares a manuscript worksheet of names from which the certification form is prepared. Short lists are typewritten; longer lists are tabulated. No check is made of the names selected for certification, nor is the typewritten or tabulated list proofread. Thus, an essential control to obviate possible errors or omissions is lacking.

Departmental dispositions of certifications are generally reported to the Certification Bureau, involving a retyping by the requisitioning department of the list of names certified. Generally, the reporting of dispositions involves the expenditure of considerable time and effort by the departments. Non-standardized methods of reporting dispositions complicates the work of the Certification Bureau in reviewing, analyzing, and posting disposition data.

To simplify, expedite, and improve certification and disposition procedures, it is proposed that:

(1) Pending the conversion from manual to machine posting of data on certification record cards, the selection of eligibles for certification be rechecked by a second clerk for the purpose of precluding possible errors or omissions. Typewritten lists should be proofread for the same purpose.

(2) A new form, combining certifications and dispositions, be instituted which will provide columns for date of appointment, failure to appear, not considered, and declinations. This will permit departments to note their dispositions in appropriate columns alongside each name, thus obviating retyping of the certified list. Segregation of disposition data will greatly facilitate the work of the Certification Bureau and also provide a simplified means of compiling its statistical reports.

The present "Certificate of Eligibility" form should be used henceforth as a transmittal letter to which the certification list will be attached and on which will be indicated the number of eligibles certified, in addition to the other required information.

In returning their dispositions to the Certification Bureau, all departments should use the Commission's Form C-2, "Notice of Appointment and Disposition of Certification," as a transmittal letter to which the dispositions (on the proposed combined certification and disposition form) will be attached.

### **Multiple Certifications**

When several City departments use the same lists at the same time to fill existing vacancies or to replace provisional employees, their selection problems are due largely to the fact that they are, in effect, competing for the



same eligibles. The practice of submitting the same names simultaneously to several departments causes much confusion and wasted effort.

Eligibles may receive as many as 20 call letters from different offices for interviews and may continue to receive them after accepting a job. Some eligibles shop around for jobs and accept positions in a number of departments, finally reporting for duty in one without notifying the others. Since certifications have a life of 20 or 30 days, many departments expend considerable time and effort without securing an eligible. The many postings to the records of the same individuals cause unnecessary and wasteful paper work in the departments and in the Commission.

For several years, the Certification Bureau has conducted "certification pools" to expedite the appointment of eligibles to replace provisionals or fill vacancies. In general, the pools lead to an acceleration of the entire certification and appointment process with earlier replacement of provisionals and filling of vacancies. They should be used more extensively.

### **Maintenance of Payroll Records**

The Payroll Bureau maintains a payroll card and a roster card for each employee in the municipal service. Payroll cards are typewritten in the Certification Bureau. A separate card is prepared for each appointee from the disposition reports received from the appointing departments. These cards serve initially as the official notification to the Payroll Bureau of appointments of employees. Subsequently they serve as the records against which the payrolls, prepared in the Comptroller's Office, are checked. It is proposed that:

(1) Payroll cards be prepared on tabulating cards by the Machine Tab-

ulating Unit after dispositions have been reviewed and appointments approved by the Certification Bureau.

(2) A copy of the dispositions (on the proposed combined certification-disposition form) be forwarded to the Payroll and Investigation Bureaus after dispositions have been approved by the Certification Bureau. Such approval should be noted and initialed on these copies, which would then serve as the official notification to the Payroll and Investigation Bureaus.

(3) Payroll cards prepared by the Machine Tabulating Unit be sent directly to the Payroll Bureau where they will be checked against the copy of the dispositions provided by the Certification Bureau. This copy of the dispositions should then be destroyed since it will serve no further purpose.

(4) The Machine Tabulating Unit return to the Certification Bureau the latter's copy of the dispositions with the notation that payroll cards have been prepared and forwarded to the Payroll Bureau.

The proposed method will not only simplify and expedite the preparation of payroll cards, but will also accelerate the operations of the Payroll and Investigation Bureaus by providing them with appointment data much earlier than under existing procedures. Although the transition to the mechanically tabulated payroll card will require some time to effect, the adoption and use of the combined certification-disposition forms should be accomplished immediately.

Since payroll cards for provisional employees are now run off on tabulating cards, the foregoing proposals will standardize all the basic records of the Payroll Bureau and provide an effective means for their comparison, reproduction, and co-ordination. For the purposes of segregation and control, different colors should be used to distinguish cards of permanent employees from those of provisionals.



Simplification of the processing of payroll cards for provisional employees can also be accomplished by eliminating entry on the card of the date of approval of the employee's application form; this operation is unnecessary since the pertinent information can be obtained readily by reference to the provisional application files which are maintained in the Payroll Bureau.

Roster cards are at present typewritten in the Payroll Bureau from information contained on the payroll cards and dispositions. Information pertaining to the current status of each employee is recorded on both the payroll and roster cards. The former are arranged by department and position title, the latter are filed alphabetically by name of employee, thus providing an effective cross reference system. Since the information on the roster card is similar to that contained on the payroll card, the roster card can and should also be prepared on tabulating equipment in the first instance.

Further benefits may be achieved by discontinuing the preparation of new cards for employees who have been promoted, by recording the necessary information on the old card. This will not only decrease the work load involved, but also reduce the accumulation of cards in the files of the Payroll Bureau.

Adoption of the proposed procedure will obviate the need for the "Record of Appointments Received Daily," which is now typewritten in quadruplicate in the Certification Bureau.

### **Investigation Procedures**

Investigations may be conducted either before or after (present method) appointments. Post-appointment investigations, however, substantially reduce

the work load of the Investigation Bureau and prove more efficient as a means of determining the status and qualifications of the appointee.

An excessive time lag exists between the appointment and the initiation of investigation. This time lag results in the unnecessarily extended employment of ineligible persons who misrepresent or conceal information. Delays in initiating investigations are caused in present procedures by not transmitting the required information until the Certification Bureau completes all its clerical processing.

To eliminate this administrative bottleneck and expedite the work of the Investigation Bureau, this bureau should receive the required information as soon as possible after appointments have been approved by the Certification Bureau. A copy of the new certification-disposition form would be a most efficient means of transmitting the pertinent information.

Certain files, such as "Persons Disqualified from City Service" and "Veterans Preference Exhausted," to which access should be restricted, are now kept in unlocked cabinets in the clerical section of the Investigation Bureau. In view of the nature of the information contained in these files, it is recommended that such file cabinets be provided with locks and be kept locked except when the files are being examined by an authorized employee.

### **Mechanization of Procedures**

Much of the progress made in improving and streamlining the procedures of the Commission is attributable to the mechanization of procedures which began approximately three years ago. The principal recommendations of this Report involve mechanization and



assumption by the Machine Tabulating Unit of operations now performed manually in other units. These changes can be accomplished without additional equipment or personnel. To insure their early realization a schedule of transition should be developed in co-operation with the other bureaus and divisions of the Commission, and responsibility for follow-up and activation should be assigned to the Administrative Analysis Unit.

### Space and Layout

The Municipal Civil Service Commission is located at 299 Broadway, Manhattan, in rented quarters. It occupies 57,500 sq. ft. of space on the second, fifth, sixth, seventh, and eighth floors, a store at the street level (with entrances from Duane Street for the public and also through the main lobby for employees), and a basement with access through the store. This area is adequate for the present needs of the Commission but additional space will be required to accommodate the new and expanded activities proposed.

While the over-all space is sufficient, maximum utilization of it cannot be achieved because of the small size of the floors and the fact that they are U-shaped around the central well and elevator area of the building. Also, a portion of the south side of the building is without window light and ventilation and can be used only for storage purposes.

Several deficiencies in layout exist. The Director of the Examining Division is located on the seventh floor, while the majority of the examining units are located on the eighth floor. It would be preferable for him to be located near the units with which he has most of his daily contacts. The Assist-

ant to the Director, Examining Division, who heads Control Unit D and has frequent daily contact with the Director, is located on the opposite side of the building from the Director. Their offices should be adjacent for greater efficiency and ease in communication. The assistant should also be located on the same floor as the examining units and the Examining Service Bureau as he frequently requires information and data from them.

To assure privacy and maximum security regarding examination preparation and rating, it would be advisable to have one and no more than two examiners in a partitioned enclosure with a door that can be kept locked.

The work of the Certification Bureau and the Payroll Bureau is closely interrelated. In many phases information and data flow from one to the other; also, there is frequent need for employees of one bureau to consult records in the other bureau. These bureaus should be contiguous. At present, they are separated by the Service Rating Bureau.

The Machine Tabulating Unit, located on the sixth floor, is badly crowded for space. With the increase in activities steadily being assumed by this unit, more space is required for the present and the additional machines and files necessary for efficient operation. During the course of our survey some 500 sq. ft. more were allotted to this unit, but had not been put into use pending structural and wiring changes.

### Effect on Public Relations

Two rooms on the seventh floor are used to conduct oral examinations. These rooms are located on the side of the building without adequate window ventilation and natural light. They present a dingy and depressing appearance



to the candidate and to the special examiners frequently engaged. Furthermore, there is no adequate reception room in which to receive candidates and have them wait their turn. Candidates must sit on a bench in the public corridor outside the oral examination rooms with employees and others constantly passing back and forth.

The same situation applies to candidates or employees called for hearings before the Commission. They are obliged to sit in the public corridor on the seventh floor, opposite the elevator shafts, awaiting call for appearance in the Board Room in which hearings take place.

The Information and Records Bureau is located in the store with entrance on Duane Street. This bureau is generally the first point of contact by a prospective employee with City employment. Here he receives information regarding Civil Service matters and job opportunities, and application blanks. The appearance of the area occupied by this bureau does not tend to leave a favorable impression of City working conditions. The entrance is hard to find, the store-front does not adequately portray that the premises are occupied by a governmental agency, and the poor furnishings and partitions and lack of cleanliness tend to detract from the dignity that should be associated with such a reception place. Furthermore, a disagreeable odor of hot wax, used to cover examination papers being inspected by candidates, permeates the air. In the winter the area is unusually cold due to the constant opening and closing of the doors, since there is no revolving door.

Not only the Information and Records Bureau but also the other quarters of the Commission make a poor appear-

ance because of the extreme need of a paint job, the old furniture used there, and the temporary amateur direction and instruction signs. The entire atmosphere and appearance of the space occupied make a poor impression upon prospective City employees and outside experts and examiners and rob the Commission of the dignity which appearance should convey.

Another factor adding to this condition is the location of a "Civil Service Book Shop" in the main corner store of the building. This venture is privately owned, but because of the wording of the legends and advertising material on the windows, an erroneous impression is given that it is an official enterprise. Such a situation is unfortunate.

### **New Quarters Needed**

While deficiencies in the present layout of the bureaus of the Commission have been indicated, and the poor appearance of the quarters pointed out, suggestions for changes in layout are not being advanced. It is felt that it would be more advisable for the Commission, as the new Department of Civil Service, to secure adequate and desirable quarters in a new location, where proper layout may be effected and appearance and dignity maintained. Additional space will be required, which is not available in the present structure. The location should be close to the Municipal Building for the convenience of the public and of the departments dealing with the various bureaus of the Commission, particularly the Payroll Bureau.

### **Need for Continuing Analysis**

A definite need for evaluation, on a continuing basis, of both present and proposed methods, procedures, and forms is apparent. Because of



the closely operating interrelationships among the component units and the effect which a change or improvement in one unit frequently has upon the work of another, all contemplated changes should be designed to insure their effective integration and co-ordination with the operations of other units and the agency as a whole.

To provide an effective means of standardizing and co-ordinating procedures, an operating manual should be prepared by the Administrative Analysis Unit for the guidance and training of personnel. Such a manual should be regularly revised and amended as necessitated by changes in procedures and policies.

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## SECTION 8

# ACTION OF THE MAYOR'S COMMITTEE

(1) Personnel management is one of the Mayor's major responsibilities, as an inherent and inseparable element in the general administrative direction of the executive branch of the City government. Top responsibility in this field for working conditions, wages, labor relations, training, health, safety, and the selection and appointment of those who work for the City must be organized for good administration and placed in competent professional hands, but it must remain an inherent part of general management.

(2) The personnel program must not be limited to "law enforcement." It must extend into the modern dynamic activities designed to build morale and develop a genuine career system in which the City will capture its share of the best talent of the rising generation, and offer them chances to go forward on the basis of training, ability, character, and devotion.

(3) In line with our general recommendations on the top management of the City, with strong and self-contained departments as the foundation of effec-

tive service, we recognize that fundamental personnel changes must also be made at the departmental level. In the field of personnel administration, this means that each department should have its own major responsibility for personnel, centering in the commissioner, and that in the larger departments the commissioner should have his own personnel administrator to aid him. The departmental personnel administrator should be a professional officer, selected on the basis of competitive examination. He should be responsible both for departmental personnel administration and for the departmental enforcement of general City-wide personnel policies so that City employees, wherever they work, may enjoy the equal benefits and equal pay for equal work.

(4) The Civil Service Commission should be reorganized as the City Department of Civil Service, in accordance with the recommendations of the Report of the Division of Analysis:

(a) The new Department should be headed as now by a three-member,



full-time Commission, appointed as at present by the Mayor for overlapping six-year terms, no more than two of whom can be from a single political party.

(b) The Commission should continue as the rule-making, investigating, and hearing body, with overall responsibility for the general administration of the Department.

(5) A new post of Personnel Administrator should be created, to be filled by the Commission, without term, with the approval of the Mayor. To the Administrator all authority for carrying out the day-to-day and technical administration of the personnel program should be delegated in accordance with the rules and regulations of the Commission approved by the Mayor, which rules and regulations cannot be changed until after public hearing and approval of the Mayor.

Efficient Civil Service and personnel administration require direction by a single individual. The Personnel Administrator, who should be nonpolitical, would be responsible for constructive leadership and administrative efficiency.

Because of the professional requirements of the position and the essentially nonpolitical character of the appointment, a special board of qualified experts who are leaders in the field of public and private employment should be designated by the Civil Service Commission to seek out and recommend for the position persons of the highest caliber and ability. In making recommendations for this post, due care must be taken to insure that only the names of truly qualified persons with experience and training in personnel administration are suggested. The final selection and appointment, however, should rest with the Civil Service Commission, his selection being made from the panel submitted.

The appointment of a Personnel Administrator as an agent of the Commission and responsible to it would create a post which would be similar in many ways to the position of the Director of the Budget. Stationed at the highest level of administrative management, the Personnel Administrator and the Director of the Budget should be closely associated with each other because of the relationship of their mutual problems and responsibilities. Through this liaison the department administrators would find their daily tasks simplified by being able to discuss their problems with these two officials, perhaps simultaneously, and receive an answer more rapidly than previously when conferences were undertaken with two organizations and negotiations shuttled between the Civil Service Commission and the Bureau of the Budget with needless expenditure of time, effort, and tempers.

Furthermore, if day to day responsibility for the operations of the Department is vested in a Personnel Administrator selected on a nonpolitical basis, he will have a professional position to maintain and the experience and qualifications which are required. He would be more influential and perhaps more determined in his support of the merit system and the promotion of a sound personnel policy than many Civil Service Commissioners.

(6) In order to develop the standards of personnel administration throughout the City, to make certain that City-wide standards are not promulgated without the benefit of departmental ideas, and to facilitate a central review of departmental personnel programs, there should be established a Municipal Personnel Council. This council should be made up of the departmental personnel offi-



cers and should meet under the leadership of the Personnel Administrator.

(7) Steps should be taken to benefit more extensively from the professional advice and assistance of the New York State Civil Service Commission, recognizing that this State agency has a responsibility to help and to supervise all local personnel agencies, and already has a well-developed technical staff for this purpose.

(8) New York City should proceed immediately in accordance with the Report of the Formal Hearings Board and the action of the Mayor's Committee on Management Survey to make and install a complete classification and pay plan for the Civil Service employees of the City. On the basis of assurances we have received from the Commission and its staff, we recommend that this task be entrusted to the Civil Service Commission in co-operation with the Bureau of the Budget, with the immediate creation of a special "classification" unit for the purpose. This action should proceed without waiting for the general reorganization of the Commission.

(9) It must be recognized that the new classification and pay plan will involve more adequate pay scales, particularly in the administrative categories and in certain professional grades, than have been established under the most recent salary adjustment schedules.

(10) Special steps must be taken to improve and develop the City's in-service training activities. While general responsibility for such a program is among the new duties assigned to the new Department of Civil Service, special efforts are called for immediately, particularly in connection with the two service academies in the Police and Fire Departments, in accordance with the

management Reports on these Departments.

(11) Neither the City budget nor the employees can afford the extravagant pension plans which some services have blundered into in recent years. As an integral part of the revision of the pay plan, the pension systems should be consolidated, reconciled along more uniform patterns, and placed on a rational and reasonable basis, as recommended in the Schechter Report. The Mayor's Committee, after careful consideration, has concluded that all contributory City pension funds should, as a matter of principle, be uniform as to the division of the burden between the City and the employees, and that this division should be on a 50/50 basis. Where special hazards or other conditions affect a given service, these requirements should be met through special insurance, carried by the City, or through special salary adjustments, not through manipulating the pension system. The Committee believes, moreover, that no new entrants into either service system should be eligible for retirement before age 45. We recommend that appropriate legislation for these changes be drawn up and adopted.

We recognize that such a change cannot be instituted apart from other adjustments in the pay scales for Police and Fire Department entrants, as was emphasized in the testimony presented to the Committee by the line organizations in the public hearings on the police and fire survey Reports.

We also recommend that the City assume its proportionate share of the financial responsibility for providing retirement benefits for the employees of the 12 cultural institutions to the extent that salaries of employees of such institutions are paid from City funds.



We propose that this be done by membership in the New York State Employees' Retirement System or by continuation of existing sound pension plans in the three institutions (Metropolitan Museum of Art, American Museum of Natural History, and New York Zoological Society) which have such plans, if the latter method is legally possible.

(12) Adequate provision must be made in the City budget for the new Department of Civil Service and its expanded staff, and also for the new professional departmental personnel offices.

(13) To meet the immediate emergency for the recruitment and appoint-

ment of qualified personnel for top and middle managerial posts, there should be set up a temporary Board of Examiners on Management Personnel in the Department of Civil Service.

(14) The participation of City personnel officials and technicians in State and national professional associations in their respective fields should be encouraged.

(15) Adequate and suitable office space must be provided for the central and the departmental personnel offices. The Department of Civil Service should be housed with the other top management offices and near those agencies with which it has most frequent contact.

## MINORITY STATEMENT

### Introduction

The majority and minority groups of the Mayor's Committee on Management Survey are agreed that efficient operation of governmental administration requires a progressive long-range personnel program vigorously pursued. We of the minority are not in agreement that the recommendations of the consultants for a better personnel system can be put into operation and be effective unless and until the three fundamental issues on which we dissent are met in the following manner:

(1) The present paid three-member Civil Service Commission which functions as an administrative agency should be replaced by a Department of Personnel. The duties of the Civil Service Commission should be transferred to this Department and its administration be vested in a Director of Personnel appointed by the Mayor for a period of four years coterminous with the Mayor's term.

The Director should be nominated by a special board of experts in the public and private personnel fields.

(2) An enlarged Civil Service Commission should be established composed of five persons paid a per diem honorarium. The new Commission, relieved of administrative responsibilities, would be concerned with rule-making and investigatory powers.

(3) Classification of positions should be undertaken immediately by a Classification Bureau established on a semiautonomous basis until the classification and pay plans have been put into effect.

The City's Civil Service Commission has failed to develop a personnel program; and, in our opinion, such a program will more readily be put into effect and conducted for the benefit of the citizens and the employees by a Department of Personnel under the administrative direction of a Director of Personnel.



## **(1) Reorganization of the Civil Service Commission**

The Reports submitted by the management consultants and the Division of Analysis of the Bureau of the Budget point to one finding in common, that the cause for the failure to develop and execute a progressive and active personnel program rests with the present Civil Service Commission, its antiquated organization and archaic procedures. After a long and exhaustive study of the Commission and its operations the Division of Analysis came to this conclusion:

... growth has not always kept pace with municipal requirements. Some existing functions must be expanded and others must be added to make the Commission an instrument of municipal government efficiency. Those functions that should be expanded are recruitment, public relations, classification, probation, service ratings, and transfers. Those which should be added are training, education, research, statistics, accident control, employee suggestion system, and uniform vacation and leave policies. It is the considered view of the Division of Analysis that a central personnel agency must be developed to serve the City of New York.

These same sentiments are voiced by the outside consultants.

Thus we are faced with the paradox of universal agreement that the Civil Service Commission has not done and is not doing the job it should in personnel administration, yet the majority of the Mayor's Committee wants to leave with that agency the task of putting into effect principles and programs the Commission has resisted for years past.

**The Negative Approach of the Commission**—The Commission primarily is concerned with the operation of the

central examining service in the City's positions within the classified competitive Civil Service. It passes on certain classes of transfers of Civil Service employees, particularly departmental transfers, and on proposed promotions and reinstatements of employees. Its relationship to placement, transfer, and reinstatement, however, is primarily the negative one of making certain that Civil Service rules are not violated. Its best work has been in the administration of assembled examinations for large groups of standardized positions.

The Commission often is criticized for excessive delay in the performance of even its most urgent functions, for lack of sufficient initiative in meeting new problems, and for failure to comprehend and give adequate assistance in meeting many important needs of the operating services in connection with personnel administration.

The Commission has shown relatively little tendency to interest itself in constructive and developmental activities of an adequate central personnel agency. Its major interest appears to remain in the negative and restrictive activities attendant upon the enforcement of Civil Service laws and rules rather than in a positive and co-operative approach toward improved recruitment, placement, training, and morale-building activities. It is questionable whether the Commission in its present form of organization is capable of such a positive approach. Originally constituted to promote the merit system, once that principle was established the Commission settled down to becoming almost exclusively an examining agency.

**Why the Commission Should be Reconstituted**—The three Civil Service Commissioners are collectively the principal



advisor of the Mayor on Civil Service personnel matters and the collective administrative head of the central personnel agency in the City. The plural character of the membership of the Commission, however, militates against the maintenance of a close and helpful administrative relationship to the Mayor.

There is no need here to discuss the pitfalls involved in a program administered by a multiheaded Commission. The administrative problems are compounded when it is realized that the program is supervised by a Commission composed of persons who are not professionally trained in personnel administration.

The Commission's role having been developed as largely of a negative restrictive nature, the more constructive types of personnel activity cannot be carried on effectively by an agency which necessarily must give so much attention to restrictive actions. Regulatory activities prevent development of attitudes of knowledgeable and objective co-operation which can be accomplished only by a new approach and new thinking.

The task involved in putting into effect a genuine personnel program is a tremendous and challenging one. In spite of the conscientious and loyal service of the present members of the Commission, their commitment to established procedures and their relationship to individuals within and without the Commission would make it extremely difficult for them to effectuate the substantial changes contemplated and proposed. To be effective and give assurance of impartial application of the principles all have agreed are sound and desirable, a new and independent ap-

proach and direction appears necessary so that New York City may again regain its position as a leader in personnel administration.

Through the reconstituted Commission, the Director of Personnel would have the benefit of the advice of a group of five individuals who should be chosen primarily for their knowledge of personnel administration and their interest in and concern for the Civil Service system. Policy determinations and rule-making would continue to rest in the Commission which, having investigatory powers, furthermore, would maintain a close watch on the operations of the Department to insure that the best interests of both the City and its employees are served.

## **(2) Appointment of a Director of Personnel\***

**One Head Is Better Than Three**—Efficient Civil Service and personnel administration require direction by a single individual. The Director of Personnel, who should be a nonpolitical administrator, would be responsible for constructive leadership and administrative efficiency.

The head of the Department should be appointed by the Mayor, who, as the chief executive of the City, is entirely responsible to the people who elect him for its efficient administration. Personnel control is a necessary and integral part of administration.

Because of the professional requirements of the position and the essentially nonpolitical character of the appointment, a special board of qualified ex-

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\* We of the minority feel gratified that since issuance of this minority Statement the majority has seen fit to adopt certain portions of this Statement with regard to the Director of Personnel.



perts who are leaders in the field of public and private employment should be designated by the Civil Service Commission to seek out and recommend for the position persons of the highest calibre and ability. In making recommendations for this post due care must be taken to insure that only the names of truly qualified persons with experience and training in personnel administration are suggested. The final selection and appointment, however, should rest with the Mayor, his selection being made from the panel submitted.

The Director, as an agent and staff aide of the Mayor, must be one in whom the Mayor has confidence. The Director's term of office should, therefore, be coterminous with the Mayor's and he should serve at the pleasure of the Mayor. To give such a position more permanent tenure would remove the Mayor's control over a vital part of the administration. One of the most serious defects of the present Commission plan is the fact that the long fixed terms of the Commissioners, by deliberate design, remove the Commission from the Mayor's control.

The appointment of a Director of Personnel as an agent of the Mayor and responsible to him would create a post which would be similar in many ways to the position of the Director of the Budget. Stationed at the highest level of administrative management, the Director of Personnel and the Director of the Budget should be closely associated with each other because of the relationship of their mutual problems and responsibilities. Through this liaison the departmental administrators would find their daily tasks simplified by being able to discuss their problems with these two officials, perhaps simultaneously, and receive an answer more rapidly

than previously when conferences were undertaken with two organizations and negotiations shuttled between the Civil Service Commission and the Bureau of the Budget with needless expenditure of time, effort, and tempers.

With a Department of Personnel under the administrative control of a Director, the Mayor's administrative program is facilitated. Decisions are more likely to be sounder and less difficult to execute with the Mayor dealing with a single administrator rather than with a board of three members, and a closer relationship is possible. The Mayor can obtain responsible advice and have his instructions transmitted without undue delay or deliberation. The Mayor, through his appointee, the Director of Personnel, can exercise his responsibility for personnel programs and administration. To have the Director responsible to the Civil Service Commission keeps the Mayor divorced from this field of administrative endeavor so vital to his role as the City's chief executive officer.

Furthermore, if responsibility for the Department is vested in a Director of Personnel selected on a nonpolitical basis, he has a professional position to maintain and the experience and qualifications with which to maintain it. He would be more influential and perhaps more determined in his support of the merit system and the promotion of a sound personnel policy than many Civil Service Commissioners.

**Increased All-Around Efficiency Would Result**—One other factor should not be overlooked. A single-headed Department of Personnel would give a degree of unity, energy, and responsibility that is difficult to obtain in any agency administered by a full-time board. Ex-



perience has shown that the board form of organization is seldom adaptable or desirable for an administrative operation. Direction, control, planning, and execution require a vigorous singleness of purpose obtained only by placing responsibility in one competent administrator.

The Civil Service worker also would stand to gain through appointment of a single administrator of the personnel system. City employees could look to one person for policy formulation and direction, with the understanding that these policies would be reviewed and formalized in rules when necessary by the Civil Service Commission. Determinations on questions of great moment would be made without delay and disagreements which accompany board control of an administrative operation. Even those questions not of great moment but of particular concern to an individual employee or a group of employees would be answered fairly, based on a professional approach and with dispatch, because of increased efficiency due to a single-headed operation.

Were the recommendation of the majority of the Committee adopted, proposing retention of a full-time Commission with a Director of Personnel under its control, the Civil Service worker would find that he would have to convince four persons in the rightness of his cause rather than the present three. Furthermore, such a setup would abet confusion and duplication of effort, with the Commission and the Director of Personnel going over the same ground or even taking conflicting viewpoints.

### **(3) Establishment of a Classification Bureau**

**Time for Action Is Here**—As with the

weather, everyone talks about the need for position classification but nobody is doing anything about it. Now, through the Griffenhagen Survey, the City has before it for the first time the beginnings of an orderly classification system and a suggested pay plan.

The classification of positions does not involve the practice of any black magic limited to a restricted few initiates. Classification is an integral part of the personnel programs of the Civil Service in the Federal and State governments and those municipal governments which have progressive and forward-looking Civil Service administrators.

Classification involves the method of making clear and keeping clear the kinds of positions and the skills required for the performance of the work of those positions. It enables the administrator to know how many and what kinds of positions there are and how each is defined and distinguished from others, as well as what qualifications a candidate for each position should possess to be considered eligible for employment.

Once defined, the positions must be classified, which means analyzing the duties and ascertaining the distinguishing characteristics of each position and bringing positions together in homogeneous classes. Based on the duties, a pay schedule is established which must have an integral consistency of one position with another and one class with another.

**Workers' Morale Affected**—Without a classification system, two persons sitting at desks side by side may be doing substantially the same work but not receiving the same salary. Equally unfortunate is the experience of an individual hired for a particular job



with certain duties and responsibilities who may not be performing them and may be doing work of a lesser skill, in which case the City is overpaying for the work; or the employee may be doing work of a greater skill and be underpaid with resultant lowered morale.

The Civil Service Commission has a so-called Classification Bureau. We can see no evidence of steps being taken by that bureau in the years since it came into being, to effect any order out of the chaos which continues to exist today in the City's patchwork of positions, duties, and classes. That bureau seems to have limited itself to the drafting of individual job duties at the request of departmental administrators who require that new positions be created, with each job then fitted to match the specifications submitted by the agency involved. We doubt whether the Classification Bureau has given proper weight to the distinction between classifying positions, which is the accepted method, and classifying incumbents, which is no classification at all.

#### **No Need to Wait for Reorganization**

—Because we are so firmly convinced that a good Civil Service depends on a well-defined classification system with an adequate pay plan, we strongly urge that immediate steps be taken to establish a Classification Bureau with a semiautonomous status without waiting for the reorganization of the Civil Service Commission into a Department of Personnel.

A Director of Classification should be appointed by the Mayor with the concurrence of the Civil Service Commission and the Director of the Budget, on the nomination of a special panel of citizen-experts in the manner suggested for nominating the Director of Person-

nel. The Director of Classification should be given prompt authority to set up his staff and take immediate steps to design a classification system and put it into effect. This semiautonomous status would be for two or three years, until the system was put into effect and operating.

For years the Federal government and New York State, for example, had discussed and planned reclassification of their respective Civil Service employees. When action finally was taken by these two governmental jurisdictions, the Classification Bureau was set up in a semiautonomous position, vis-a-vis the Civil Service Commission, because experience had shown that a major reclassification cannot be effected without dissociating the Classification Bureau from the day-to-day operations of the personnel agency. Once the classification system and pay plan were adopted and put into effect the bureau again was brought within the framework of the personnel agency. Thus, our recommendation that the Classification Bureau be given semiautonomous status is not without operating precedents.

#### **Employees Deserve Fair Treatment —**

New York City has the opportunity now to classify its positions rather than just keeping on thinking about it. We believe the City's employees deserve to have their duties defined correctly and to be compensated fairly in accordance with a proper pay plan. The Griffenhagen recommendations can be used as a starting point with definite provision made to hear and heed appeals from employees before the system is adopted.

Proper classification in the City will be a reality if the Classification Bureau is established as a semiautonomous group apart from the present Civil



Service Commission. The point at issue is to get the jobs classified—and now.

### Conclusion

The majority and minority groups on the Mayor's Committee are agreed that a Department of Personnel should be organized. But we of the minority cannot conceive how retaining the existing Commission setup and appointing a Director of Personnel responsible to it, but calling the new agency "Department of Personnel" instead of Civil Service Commission, would bring about a new order and effect the urgently needed change from doing things the old Civil Service way.

We are not interested in mere changes in names or creation of new jobs in and of themselves. We are vitally concerned with the future morale and well-being of the employees and the Civil Service system. That is why we so strongly advocate the establishment of a central personnel agency to be administered solely by a qualified Director of Personnel.

A satisfactory central personnel agency should keep itself informed concerning methods and procedures in per-

sonnel administration throughout the City service. It should encourage and support constructive development and disseminate knowledge to all parts of the service, sparking a positive interest in improved practices throughout the service. The Department should be concerned with the training and development of placement and personnel officers in the various City departments and with promotion of a Council of Personnel composed of directors of personnel of the major City departments, for interchange of knowledge and understanding of the programs and policies of the Department of Personnel as well as departmental views and needs for the attention of the Department of Personnel and its Director.

/s/ CHARLOTTE CARR

SAMUEL DAVIS

ROBERT W. DOWLING

PETER GRIMM

GEORGE H. HALLETT, JR.

SAUL LEVY

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VICTOR S. RIESENFELD

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## CHAPTER VII

# Licenses

### EDITORIAL NOTE

Many civic groups, as well as the Division of Analysis of the Bureau of the Budget, have long felt that the possibility of centralizing numerous inspection and permit-issuing services of the City should be investigated thoroughly, not only in the interest of administrative economy, but also in the interest of public convenience and protection. And in addition, while no one has advocated that license fees and permits should be considered primarily as a source of revenue, it was felt that the whole fee structure could profitably be re-examined. Accordingly, a comprehensive project on this subject was sponsored by the Mayor's Committee. The assignment was given to the firm of Worden & Risberg, and the Division of Analysis co-operated by assigning personnel for important parts of the work.

The following departments were surveyed: Licenses; Health; Fire; Housing and Buildings; Hospitals; Parks; Police; Sanitation; Water Supply, Gas, and Electricity; Markets; Marine and Aviation; Board of Standards and Appeals; Borough Presidents' Offices; and Civil Service. The first four received especially detailed study. (No report on the Department of Parks was found necessary.)

Four areas of study were decided upon: (1) adequacy of protection; (2) convenience to the public; (3) operating effectiveness; and (4) revenue from operation. On the basis of an Interim Report, after the study progressed, it was agreed that the major emphasis should be on the last two.



While the management engineers conducting the study were not expected themselves to develop technical specifications for inspections and tests (as, for example, bacteria count for milk), they were required to discuss the problems involved with appropriate authorities both within the City government and outside, and to develop standards of safety as agreed upon by those having professional responsibility. Special attention was to be given instances where current practice may actually be going beyond what is required for reasonable protection, with subsequent opportunities for economy.

After interested representatives of the Mayor's Committee had discussed the final Report with the consultants and had considered reactions received from commissioners affected, they requested the consultants to furnish a Supplementary Statement, giving more explicitly their views on possible consolidation of license issuance in a centralized agency and consolidation of inspections for greater economy and convenience. They were also asked to clarify their unit cost figures supporting recommendations made for revision of fees. This Supplementary Statement is given in extended digest form following the digest of the main Report.

As indicated in Section 2, the Committee departed from the Report with respect to inspectional matters in the Police and Fire Departments.

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## SECTION 1

# **INSPECTION AND LICENSING**

By

WORDEN & RISBERG

This Report is concerned primarily with how much regulatory inspection

should cost the taxpayer, and starts with the premise that such activity is a justifiable part of City government.

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Digest from "Final Report on Regulatory Inspectional and Licensing Activities," by Worden & Risberg, March 1, 1952.

The present cost of regulatory inspections, which is only 1 percent of the



City's expenses, amounts to \$13,400,000, 60 percent of which is supported by revenue from license and permit fees. This support could be raised to 95 percent, making it nearly self-supporting.

Good building regulation can encourage building activity; poor regulation can stifle economical building, on the one hand, and bring into being, on the other, slipshod construction that people will have to live with for the next fifty years. The regulation of health and fire hazards can encourage the use of the City's entertainment and dining facilities.

It is difficult to say just how much is enough money to operate the regulatory inspectional activities. It is an open end proposition. There are yardsticks that can be used to measure performance in the fields of street cleaning, hospital operation, public works, fire, and police protection, but there are few in use on regulatory inspections. In this Report an attempt has been made to furnish yardsticks in this field—especially on permit issuance cost—and, in the absence of standards, comparisons with good practice have been made.

Another thing that disturbs the budget-minded is the intangible nature of the results of regulatory inspectional activity.

In regulatory duties, like other City activities, the major cost now lies in the routine field work, yet it is possible to get good regulation with very little spent for routine field inspection. On the other hand, there is a danger of getting little or no regulation in spite of droves of field inspectors.

To sum it up, it is conceivable that the City's 1 percent spent on regulatory activity could be increased for seemingly plausible reasons to 2 or 3 percent. Let there be a serious fire, a series

of building collapses, or an outbreak of food poisoning, and any one catastrophe could set in motion a popular demand for a budget increase for inspectional work. Good regulation, however, should be obtainable for as little as 1 percent of the City's budget.

### The Inspection Operation

Regulatory inspection is designed to check on whether the licensee is meeting the standards, and to make him meet them if he is not.

In the interests of economy, and yet with proper regard to adequacy of protection, it is important to *start out* with the assumption that the City does not have to spend money for inspection in order to get good regulation. A licensee can be required to swear that he has met City standards, and he can be held criminally liable for failure to meet them; or an affidavit can be secured from a licensed professional man, whose license can be revoked if standards are not met. Suppose the licensee or applicant is not sure whether he has met standards or not; then he could be required to secure the approval of some private inspectional agency accredited by the City.

In other words, regulation by City inspection is only one means to the desired end, and should be the way of last resort. In setting up for regulation, the backbone of the program should consist of means other than City inspection, with the City facility used only to fill in the loopholes.

Loopholes exist, of course. Regulation of building safety, health hazards, weights and measures, and the like cannot be carried on without some City inspection. It must be used:

(a) To "check the checkers." Is the private inspectional accredited agency doing a satisfactory job?



(b) To analyze the results of enforcing the established standards. Do they properly protect the public?

(c) To check the honesty of licensees when accredited inspection agencies cannot be used.

(d) To detect failure to apply for a license.

To what extent is the City confining its expenditures on inspectional work to the above areas? The large forces of inspectors indicate that there is not much attempt to do this, although several of the Commissioners with major regulatory functions (notably Health, Housing and Buildings, and Fire) have given it some consideration.

Civil Service regulations and municipal budget procedure make it inherently more difficult to change organizational structure, and add and subtract positions, than in private business. The tendency is to assume that for every hazard under regulation, a certain force of inspectors is needed, and since the cry is always for more men, the present force is usually regarded as not excessive.

### Scope of Study

For *qualitative* coverage, the original intention was to recommend improvements in adequacy of protection, convenience to the public, operating effectiveness, and revenue from operations. As the study progressed, it became apparent that the major emphasis should be on the last two of these areas.

With respect to *quantitative* coverage, four Departments (Health, Fire, Housing and Buildings, and Licenses) were selected for a relatively full treatment, since they possessed the more important regulatory functions. Nine others were to be covered, but not so completely.

### General Nature of Findings

In three of the four major Departments the application of the minor

principles of good management is overshadowed by major problems of over-all organization. Their solution is necessary before taking action on minor operating recommendations.

For instance, in the Fire Department minor operating economies in permit issuance cannot be considered until the major job of conversion to a mechanized routine is completed. More important than this, the question of whether the present over-all organization for regulation of fire hazards should not be entirely rearranged takes precedence over consideration of the effectiveness of the individual regulatory units.

In the Department of Housing and Buildings, it means nothing to point out improvements in the system of receiving and investigating complaints in the Housing Division, because this whole activity should be replaced by a new program. Maintenance inspections of elevators and boilers could be improved, but it appears possible to eliminate most of these City inspections.

In the Department of Licenses, recommendations for its development into a central licensing department to which other Departments would transfer their licensing issuance work, apparently must wait until its present operations become much more effective. In some instances the Commissioners of the Departments are aware of these major problems and are concerned about the difficulty of attacking them.

Even in the Department of Health, where considerable planning has gone into its permit issuance procedure and its inspectional work, there are major questions concerning the necessity for the existence of a large inspectional unit, and also concerning the desirability of decentralizing inspections to operate out of health centers. In addi-



TABLE I — PROPOSED SAVINGS FROM GREATER OPERATING EFFECTIVENESS AND PROPOSED INCREASE IN REVENUE

	Total Budget 1950-51	COST of regulatory inspectional activity 1950	PROPOSED SAVINGS		REVENUE from regulatory inspectional activities 1950	PROPOSED INCREASE IN REVENUE	
			Greater operating effectiveness			Readily available	Probable additional
			Readily available	Probable additional			
Licenses .....	\$ 338,076	\$ 338,076 <sup>1</sup> (includes "rent")	\$ 22,900	—	\$1,452,425	\$ 5,300	\$ 3,300
Sanitation .....	55,160,250	388,400 <sup>2</sup>	101,000	\$141,000	14,468 <sup>3</sup> 815,050 <sup>4</sup>	10,000	815,000 <sup>4</sup>
Hospitals .....	80,198,832	51,620 <sup>2</sup>	—	—	0	—	11,330
Health .....	16,648,602	2,141,627	34,300	135,900	664,334	454,594	223,820
Markets .....	1,435,747	534,755  (Weights and Measures, Live Poultry only)	39,366 <sup>5</sup>	23,850 <sup>5</sup>	208,108 <sup>5</sup>	—	5,000 <sup>5</sup>
Fire .....	59,726,573	3,525,183	1,086,000	297,000	1,855,514	—	—
Police .....	106,168,796	765,000	147,000	—	617,043	—	107,000
Housing and Buildings .....	4,032,257	4,032,257 <sup>6</sup>	187,000	77,000	1,226,680	(1,187,844) <sup>9</sup> 1,210,172	105,000
Civil Service..	945,619	32,000	—	—	6,870	—	—
Water Supply, Gas and Electricity .....	28,319,774	618,678	—	—	317,115	372,000	—
Board of Standards and Appeals....	132,199	132,199	—	—	0	—	—
Borough Presi- dents' Offices..	21,315,277	800,000 (estimated)	Not studied	Not studied	786,000 (estimated)	Not studied	Not studied
Marine and Aviation .....	7,668,167	142,570	15,000	3,000	0 <sup>7</sup> 236,000 <sup>8</sup>	23,000 <sup>7</sup>	24,000 <sup>8</sup>
TOTAL .....	382,090,169	13,502,365 <sup>10</sup>	1,632,566	577,750	8,199,607	2,075,066 plus 1,187,844 <sup>9</sup>	1,294,450

NOTES

<sup>1</sup> Excess over budget—\$32,260 rent, \$6,630 personal services.

<sup>2</sup> Where "other than personal service" is not large, it has not been estimated or included.

<sup>3</sup> Permits.

<sup>4</sup> Dumping privileges. ED. NOTE: This figure in the column on Revenue is for dumping privileges, and in the column on Probable Additional Revenue, is based on a proposal by the engineers to double the fee. In later discussions, the Budget Bureau contended that this should not properly be included in licensing revenues, and the engineers agreed that if desired, it could properly be eliminated.)

<sup>5</sup> Omitting evaluation of recommendations on Division of Live Poultry and Division of Markets.

<sup>6</sup> Total of salaries of employees listed on organization charts of Department, March, 1951, is \$70,775 greater than this figure.

<sup>7</sup> Building permits.

<sup>8</sup> Wharfage.

<sup>9</sup> Increase in revenue from recommendations of Department of Housing and Buildings and Division of Analysis during 1951.

<sup>10</sup> ED. NOTE: This figure is understated. See footnote p. 00.



tion, there is the necessity of considering whether the Department could pioneer in establishing new methods of enforcement that would give better control with less routine inspection work.

The preceding brief description of these various major problems shows that there is no similarity between them which would permit generalizing as to a solution, and yet each one is so important that a full treatment had to be given.

When an approach is made to the minor operating problems — need for better supervision, better dispatching, lower permit issuance cost, more time spent in the field, less time-consuming reports, better training—just about the same difficulties are found in each inspectional unit, and the similar solutions can be applied.

In the field of greater revenue from operations an attempt has been made to standardize the approach, in spite of the necessity for a considerable difference in cost analysis procedure in the various Departments.

Savings and Increased Revenue

The objective of this study is to show how greater operating effectiveness can save money for the City, and how revenue can be increased. Certain areas have been selected for coverage because of their value as examples of what can be done elsewhere in the field of regulation, and because of their importance as initial steps in the complete program. They represent what appears almost immediately possible with a minimum of new legislation and spending of money. Moreover, while a drastic upward revision of salaries would undoubtedly make elbow room for further economies in terms of numbers of people, practically all reorganizational and operational improvement proposals that are made involve no salary increases. Nor have any sweeping consolidations of large regulatory units been proposed. If there is looseness of operation in the present units, it should be removed before anything bigger is attempted.

Tables I and II indicate costs, savings, and revenues.

TABLE II—SUMMARY—EFFECT OF PROPOSALS ON PRESENT COST AND PRESENT REVENUE

	Cost of regulation	Revenue	Revenue Percentage of Cost
Present .....	\$13,502,365*	\$8,199,607**	61
Proposed changes "certain" .....	1,632,566	2,075,066	
Proposed "certain" total .....	11,869,799	10,274,673	86
Proposed changes "speculative" .....	577,750	1,294,450**	
Total as per Report .....	11,292,049	11,569,123**	102
Proposed during 1951 by Department of Housing and Buildings and Division of Analysis of the Bureau of the Budget .....	.....	1,187,844	
Total as per Report and as proposed by City.....	\$11,292,049	12,756,967	113

\* ED. NOTE: This figure is understated. See footnote p. 00.  
\*\* Includes the amounts mentioned in Note 4, Table I.



Savings given are of two kinds, certain and speculative. However, it should be emphasized that, in making the study, the approach was definitely not one of discovering all the "certain" propositions and then going over the ground again to turn up another crop of "speculative" propositions. All were developed at the same time and, in presenting

them in the body of the Report, no distinction is made in most Departments. However, as the figures were stripped of their descriptions in summarizing, it seemed helpful to indicate roughly, by a two-way division, the relative attainability of the savings items and the increased revenue items as shown in the preceding table.

## DEPARTMENT OF LICENSES

The Department of Licenses is the nucleus for the consolidation of license issuance functions through transfer from other licensing agencies of the City. There is no point in making these transfers unless it can be done more efficiently in the central Department.

The Department started in 1914 as a move toward consolidation. After 40 years, it issues only 25 percent of the different types of licenses, about 7 percent of the total City load. On all of these, the Department either shares or does all the regulation required. Further consolidation would transfer issuance, but not responsibility for regulation.

Opportunities center around the possibility of improving license procedure, especially on renewal of licenses, and increasing the effectiveness of inspectional work. The changes, which would involve some further planning, would permit a \$22,900 saving in personal services. Increase in fees would yield \$5,300, possibly an additional \$3,300.

It should be pointed out that the Department has been zealous in protecting the public and in trying to be helpful and courteous in its dealing with licensees. However, the mechanics of operation creak, both in the clerical work of issuance (especially the renewal procedure) and in the dispatching of field inspectors.

### Adequacy of Protection

Extension of regulation to types of service and amusement businesses not now covered should be studied, and loopholes should be plugged. A minimum safe frequency should be established for each licensee, coupled with a hazard-control program which would enable administrative people to watch conditions in the field.

Field coverage amounts to about 50 percent of a thorough routine inspection program. Only a dozen of the 80 types of businesses licensed are scheduled for regular inspections. The reason for this is the ineffective use of field inspectors' time rather than any laxity of attitude. A table of recommended minimum safe frequencies was developed for all the businesses covered, and transmitted to the Department. This minimum schedule calls for about twice as many inspections of existing licensees as are made at present.

The Department is on its way to finding itself in the same position as the Housing Division of the Department of Housing and Buildings, which gradually abandoned its routine block-by-block inspections and has now lapsed into a 100 percent inspection-by-complaint-only program. By greater operating effectiveness, the Department could take care of its routine inspectional pro-



gram completely and still have time for special surveys, complaints, and reinspections.

It would seem that employment agencies are overinspected. It is felt that three instead of six regular inspections per year are sufficient, considering the fact that reinspections and complaint investigations raise the frequency.

The practice of giving in-service training lectures on Department policies and practices should be reinstated. In this connection, a simple mimeographed "Guide for Inspections" should be compiled which would give the legal requirements for each license, and, in detail, the inspection techniques to be followed.

### **Convenience to the Public**

The good intentions and diplomacy of the Department personnel should be employed to the best advantage by the establishment of several "License and Permit Information Centers": one in Manhattan; one in Brooklyn; and possibly later, others in the remaining Boroughs. Greater convenience to the licensee will also result by securing all possible facts on the renewal blanks.

### **Greater Operating Effectiveness**

The organization structure should be changed: (1) to align operations first by *function*, and second by *location*; (2) to simplify license issuance work, reducing license issuance cost, and saving five people; and (3) to improve field inspection by adding 3 field supervisors, 4 clerks, and through other changes, reduce the inspection force from 37 to 27.

License application forms and field inspectors' forms should be streamlined; field inspectors should be relieved of "messenger boy" work and office clerical work. They should receive control and guidance from supervisors; spend 90 percent, instead of 69 percent, of their

time in the districts; and raise the average speed of making inspections to that maintained by the upper third of the force. The Complaint Division might improve its operations by switching from the use of departmental hearings to other less costly means.

License issuance needs a thorough going-over coupled with co-operation from the City in the way of much-needed equipment. A highly placed official, a Deputy Commissioner, should head this work. Similarly, another Deputy Commissioner should devote his entire time to improvement in dispatching methods, field control, and training methods for field inspections. Each Deputy should have an assistant.

In the Department of Licenses there is nothing that resembles a model license issuance system—not when money is kept in wooden drawers instead of cash registers; not when licenses are written in longhand for lack of typewriters.

Great improvement in issuance procedures can be made with existing equipment, especially with respect to renewals, which represent about 76 percent of licenses issued. Detailed suggestions on forms, procedures, and handling were passed on to the Department.

The average issuance cost per license, considering personal services only, is \$1.20. The Bureau of Permits in the Department of Health achieves a cost of \$0.82 per permit. The Fire Department expected to achieve a unit cost of \$0.92 for combustible permits by full mechanization. (This is merely an estimate and is based upon a method of inspection that increases the cost of license issuance over what it should be under mechanization.) It is fair to accept a unit cost (without mechaniza-



tion) of \$0.82 as possible and desirable for the Department of Licenses to achieve.

### Possibility of Greater Revenue

A study of how to make sure that existing types of licenses are secured by all who are required to do so would reveal potential revenue not now obtained. Minor increases should be made in some fee levels, and extension of regulation to public warehouses should be secured. The Department should charge a fee for transfer of title and inspections made when license is later refused.

A brief study was made of the possibility of raising additional revenue by increasing fees. The prospects for this are not very bright, since nearly all the licenses carry fees that pay for the cost, and in many cases considerably more than the cost. The 1950 revenue from licenses was \$1,452,425, which is about three times the cost of regulation.

As to securing closer to 100 percent of licensing of businesses that should be licensed: There are now about 55,000 licenses on file. The top administration of the Department feels this does not represent the total number that should be licensed, but cannot estimate the degree of coverage. It would seem that the obstacle to a higher degree of coverage is not lack of sources of information concerning potential licensees, but lack of time to pursue these sources. Since retail merchants must file tax returns with the Tax Bureau of the City, this constitutes one source; tabulations of the Federal Bureau of the Census could be another source.

Returning to the possibility of increasing fees on existing licenses, the ratio of license fee to cost of regulation on *renewals* runs anywhere from less than 1, where the fee is less than the

cost, to a ratio of 50 or a 100 to 1, where the fee is greatly in excess of cost.

The Department's annual load consists of about 13,000 original applications out of 55,000 licensees. The cost of the initial inspection for an original application averages considerably more than the annual cost of regulation, i.e., the inspection cost for a renewal.

The charge for an original and a renewal fee is the same. However, analysis shows that an original costs 58 percent more than a renewal.

The extra cost of inspecting originals is almost entirely confined to a few licenses such as motion picture theaters (including common shows), theatricals, laundries and launderettes, massage operators, and secondhand dealers, on which the fee is already a great deal larger than the cost. Most of this extra cost is borne by other City departments.

Certain minor increases in fees were suggested to the Department with respect to the 37 types of businesses in the service field, the most important of which had to do with employment agencies. The present cost is \$39 per agency, but this includes 7.4 inspections a year. If employment agencies need this amount of regulation, an increase of the fee from \$25 to \$50 might be considered, to cover present actual costs. If the inspectional program is laid out for more effective coverage, then the \$25 fee would nearly cover the cost.

In the amusement field, consideration should be given to increasing the fee for open air theaters from \$50 to \$100, and bathing establishments could be raised from \$50 to \$75. Small increases were suggested for occupations in both the business and amusement fields where the licensees are wage earners and not proprietors (express drivers, laundry agents, etc.).



## DEPARTMENT OF SANITATION

The Department of Sanitation has a budgeted payroll of \$45,000,000, largely spent in sweeping and cleaning, collection of trash, rubbish, and garbage from the noncommercial sources, and snow removal. There are several regulatory inspectional functions whose payrolls total \$388,400.

In general, recommendations for more effective operations center around the fact that: (1) an expanding regulatory force is justifying its existence by the volume of punitive measures taken, with little recourse to an educational program; (2) the activity, even as it stands, is overstaffed; and (3) the trend is away from specialized inspectional units and toward the performance of such duties by people already assigned to districts, familiar with the area and its hazards, and already covering other similar regulatory work.

### Recommendations for More Effective Operations

**The Truck Measuring Unit** — This unit of the Bureau of Street Cleaning and Waste Collection should be eliminated as a specialized unit, and responsibilities should be transferred to the Division of Inspection. Many TMU inspections (but not measuring activities) are duplicated by the Division of Inspection. The snow removal training program conducted by TMU personnel should be confined to the instruction of new men only. In initial inspection of a truck body for an original application, the rated capacity of the truck manufacturer should be accepted where it is permitted by Department Rules and Regulations, thus eliminating the need for measurement by the unit.

Annual reinspections of trucks for renewal of permits could be eliminated

and replaced with spot-checks of truck condition and capacity at places of disposal.

**The Division of Inspection** — This division should absorb the measuring and inspectional duties of the Truck Measuring Unit, as described. It should be confined to the regulation of waste conveyance and private landfills.

Regulation of citizens and businesses, other than waste conveyance and private landfills, for the elimination of sanitation nuisances, should be done through an educational program, resorting to punitive measures only as a minor phase. This program should be administered by the Department of Sanitation top personnel or by the Department of Health. The latter would involve a transfer of the function out of the Department of Sanitation.

The force of the Division of Inspection operating as now constituted, and without the changes recommended above, should be reduced 25 percent, by reducing time spent in the office, reducing time spent on complaints, and by reducing inspectional time. A portion of the inspectional force should be assigned to night patrol, since this is the most active period for vehicle permittees. This could be done on a rotating basis.

**Division of Office Service and Permits** — The issuance of the relatively small volume of 4,500 permits for waste conveyances and landfills should be transferred out of this division, and transferred to the Chief Clerk's Office of the Department of Sanitation, or to the Department of Licenses. Renewal forms should be mailed to all permittees by December 1 of each year, requesting that they be completed and returned by January 10.



The requirements for reinspection of truck bodies as a prerequisite of permit renewal should be eliminated. Inspectors at all disposal points should inspect vehicles during the period November 1 to December 31.

It is estimated that annual savings totaling \$102,000 could be attained from the foregoing, based on the assumption that operations continue in their present form. If the work were merged with the remainder of the public health program, an additional \$141,000 could be saved. (The savings include the effect of detailed recommendations passed along to the Department, concerning use of manpower, combination of operations, simplification of forms, and the like.)

### **Recommendations for Increased Revenues**

A delinquency fee of \$2.50 should be established on all waste conveyance permittees who fail to renew permits by January 31.

The fee for Conveyance of Waste Material permits (all classes) should be increased from \$3.00 to \$5.00 annually.

Based on actual costs, consideration should be given to the increase of the fee for the use of the Department of Sanitation's disposal facilities, from 20 to 30 cents per cubic yard, effective January 1, 1953, and to 40 cents per cubic yard, effective January 1, 1955.

Revenues from the first two recommendations would be about \$11,000 per year, of which the delinquency-fee revenue (\$1,750) would disappear if

delinquency is corrected. However, the increased fee for disposal facilities, which is being considered by the Department, could bring in approximately \$815,000 annually.

### **Adequacy of Protection**

Adequate protection is being given to the public with respect to conveyance of waste material through the streets and use of Department disposal facilities. Control of permittees with respect to condition of trucks is fairly good.

With respect to health hazards, other than conveyance of waste materials and operation of private landfills, the enforcement of the Sanitary Code and Administrative Code is difficult in that "clubs" cannot be used. There are no permits to be revoked and no City property from which the offender can be barred. During the four years 1946 to 1949 an average of 21,000 summonses were issued annually, as against about 52,000 warnings; an average of 11 arrests were made, and about \$60,000 collected in fines. During 1950 the policy of the Department has become more stringent. The use of warnings has been discontinued, and the service of Police or Department summonses has been emphasized. Such a program is usually unsuccessful and is always costly in the long run. This is no exception.

Supervision appears adequate. In the Division of Inspection there is one supervisor for eight inspectors. Moreover, supervisors are able to spend considerable time with their men, either observing them work, or advising them.

## **DEPARTMENT OF HOSPITALS**

The Department of Hospitals has the responsibility of the staffing, operation, and maintenance of municipal hospitals, and providing hospital care for those

citizens requiring it. In addition it has the regulatory responsibility of supervising certain classes of private hospitals and nursing homes. This is a



minor function of the Department and is a very small part of the field of regulatory inspectional activity in New York City. However, the nature of the enterprise under regulation — the care of the sick and aged — commands careful consideration.

The Department's payroll is \$62,000,000, of which \$51,620 is assigned to the Division of Institutional Inspection. This division consists of 15 people. Eleven of these are classified as inspectors (two are at present assigned elsewhere in the Department), three are clerical employees, and all are under the direction of a General Inspector.

The work of the Division is as follows:

(a) Inspection and licensing of 70 nursing and convalescent homes, and 45 private hospitals and sanatoriums.

(b) Investigation of complaints received from patients.

(c) Consultation on plans, specifications, and regulations relative to operating or opening a private hospital or nursing home.

(d) Conducting various types of surveys.

The present regulatory unit in the Department of Hospitals is well supervised, but is handicapped by the fact that the salaries do not attract people of the caliber necessary to carry out the program contemplated.

### **Adequacy of Protection**

All hospitals in New York City except Federal institutions—namely, City-owned, State-owned, privately owned “voluntary” hospitals (nonprofit institutions supported partially by public funds), and privately owned institutions operated for profit—should be regulated uniformly by the City. This could be accomplished by a Charter amendment requiring licensing of all hospitals within the City.

Present regulations governing private proprietary homes and hospitals are inadequate and should be revised for better qualifications of medical and nursing staffs, dietary care, and physical plant.

If hospital capacity is so tight that the correction of specific violations must be done by education rather than drastic enforcement, then there should be at least an over-all score below which the risk to the patients becomes more serious than their transfer due to closing the hospital or one of its services.

The minimum requirements for institutional inspectors should be raised to require a Bachelor of Science degree and (preferably) training in hospital administration, or graduation as a Registered Nurse and five years' experience in education or administration. Inspectors should receive in-service training, and their assignments should not be rotated so frequently.

Higher compliance from *voluntary hospitals* could be secured if the State Board of Social Welfare, the authorized regulatory agency, arranged for making inspections through the City, and supported the cost.

Higher compliance from State institutions could be secured by a tightening of the State's present practice of requesting the City to make its inspections, or by greater inspectional activity on the part of the State.

The initial step toward higher compliance from City-owned hospitals could be secured by Council action requiring them to receive more complete inspection from City agencies. At present, such inspectional agencies as the Departments of Housing and Buildings; Fire; Water Supply, Gas and Electricity; and Health make inspections and report violations, but the City adminis-



tration corrects only such conditions as it chooses.

Another means of regulation could be the City Department of Health, by virtue of its powers to extend the Sanitary Code's coverage of hospital operations.

If regulation of all hospitals located in the City can be secured by extension of Section 110 or other section of the Sanitary Code, it should definitely provide for licensing. One of the present difficulties of the Division of Institutional Inspection of the Department of Hospitals is that if a license is revoked the hospital must cease to operate, and the patients must go elsewhere. Because of New York City's limited hospital capacity, the tendency is to rely primarily on educational methods rather than the occasional drastic action.

### **Economy of Operation**

The reporting and recording of facts and observations concerning the institutions under license should follow a procedure that gives a fair picture of the conditions at each institution, but which also economizes on the inspectors' time. (Numerous specific recommendations on forms for reporting hospital inspections were turned over to the Department.)

In order to eliminate duplication of effort, provide an opportunity for training an adequate staff, and establish a centralized regulatory unit for hospitals, the functions of the Division of Institutional Inspection of the Department of Hospitals, and the Division of Hospital and Institutional Inspection in the Bureau of Food and Drugs of the Department of Health should be consolidated, preferably as a part of the Department of Health.

The present payroll for both units amounts to \$70,988, including only per-

sonnel actually doing regulatory work. The proposed consolidation of these two agencies, of high-caliber people, would amount to \$74,200. This is \$3,300 more than the amount now *spent*, and \$11,000 more than the amount budgeted by the City. However, the inspectional coverage of *all* hospitals in the City would meet high standards at present not being met.

The consolidated unit is recommended for placement in the Department of Health because the latter is responsible for City-wide environmental sanitation; it already has some regulatory responsibilities in the hospitals within the City; and the prime responsibility of the Department of Hospitals is the construction and operation of City-owned hospitals and allied institutions—which is a big job in itself.

Work standards for inspections should be established, based upon accepted good performance of State and Federal hospital inspection agencies. Comparison with performances of Indiana's Division of Hospital and Institutional Services of the State Board of Health and with the Hospital Facilities Division of the United States Public Health Service indicates that the time taken for an inspection by these agencies was only slightly more than half of the time taken by New York City's Department of Hospitals. This is partly because the two agencies mentioned above can bring greater pressure to bear on licensees, thus reducing the amount of follow-up for enforcement; and partly because inspectors in these two agencies must meet higher requirements in educational background and experience thus insuring better performance.

If the Division of Institutional Inspection had inspectional people of the recommended qualifications, and could



bring institutional conditions up to a level which would permit normal inspectional procedure, the approximately 115 institutions now under license could be handled by five inspectors instead of the nine now actually working in the division.\*

### Possibility of Greater Revenue

In order to pay for the cost of regulation on all except City-owned institutions, a sliding scale of annual license fees should be established, based upon the number of beds.

With annual license fees ranging from \$40 for 0 to 24 beds, to \$1,000 for 600 to 999 beds, the present coverage of about 115 institutions would bring in some \$11,000 revenue, against \$45,000 payroll expense.

However, if all the approximately 600 institutions in the City were regulated by a good licensing regulation with adequate support for a consolidated regulatory unit, the operating statement *for the consolidated unit would show \$67,000 revenue against \$109,000 expense.*

## DEPARTMENT OF HEALTH

The total cost of the Department of Health for the fiscal year 1950-51 was \$13,800,000, of which \$2,141,627, or 16 percent, represented regulatory inspectional activity. Practically all this regulatory inspectional activity is confined to the field of environmental sanitation. Control is in the form of permit issuance and field inspections. It involves the construction of an economical channel through which the more routine part of the control program can be administered.

Certain peculiarities about the program are: (1) *emergency programs* (leaky gas appliance investigations, recall of drugs) run concurrently with *projects* (ragweed, rodent control), and the normal routine *permit and regular inspection* program; (2) approximately 50 percent of the entire Department of Health operating budget is reimbursed by State funds, after crediting to the

general fund of the City of New York receipts from licenses, permits, and sale of medicines.

We are approaching the study of regulatory inspectional activity from a management standpoint, with the thought of streamlining as much as possible the part of public health that is carried out through regulatory inspections. In doing so, we make recommendations concerning possible economies and added convenience in a field where adequacy of protection is considered paramount.

The program functions by the combined efforts of four Bureaus: Permits, Food and Drugs, Sanitary Engineering, and Sanitary Inspections. This "operating unit" comprises the services of approximately 489 people. *This group does what is probably one of the best management jobs in the City on regulatory inspections.* Its standards of protection are high, but its enforcement program falls short of the goal the Department is trying to reach, largely because of lack of people. It has already put into effect most of the techniques recom-

\* ED. NOTE: The figure 115 refers only to the number of institutions now regulated by the Department of Hospitals. As there are approximately 600 institutions in the City, the five inspectors recommended cannot be taken as a top figure.



mended to the other Departments considered. The fact that it has done so indicates its ability to take further steps now that have been mentioned only as part of a long-range program in the other Departments.

It is assumed that the saving from these further steps would be used for extension of protection or for additional compensation.

### Adequacy of Protection

The Health Department has a well-deserved reputation for pioneering in the establishment of good health standards. In any case, discussion of these standards and training of inspectors is the province of a Report made by health authorities.\*

In order to insure adequacy of enforcement and to set up bench marks for considering economy possibilities in the future, a system of "hazard control" should be established which gives the administration of the environmental sanitation program a yardstick for measuring the status and trend of each health hazard, by area and by type of establishment.

In regard to frequency of inspection, Health Department statistics were analyzed and field operations observed. It was found that not only was there a wide discrepancy in actual practice but also, in general, nothing had been done about developing frequency standards. It had been discussed within the Department, however.

An attempt was made by the authors of this Report, with the help of recognized public health authorities, to establish frequency standards for use in checking adequacy of enforcement, and also as bench marks for considering

economy possibilities. These standards are what might be called "trial frequencies." They are not exactly minimum frequencies, although they do represent an attempt to weigh the desirability of economical operation against the risk involved.

Figures available for 1947 indicate that the proposed frequencies would have generated only 82 percent of the inspections for permits made in 1947, and, presumably, in 1950. This proposed figure already includes about 4 percent allowance for reinspections on original applications. It would thus seem that the proposed frequencies will not increase the inspectional load.

Frequency is increased an average of 15 percent in 11 licenses out of 36, primarily in bakeries and restaurants. Frequency is decreased in 25 out of 36, primarily in wholesale food establishments, barber shops, beauty parlors, wholesale shellfish, and certain classes of milk and frozen desserts. Detailed proposed schedules were transmitted to the Department.

As to yardsticks on hazards, the status of each health hazard should be *scored* by working out a rough method of measuring the seriousness of each situation quantitatively (perhaps by the number of violations reported). Punch cards should be used, and resulting reports should be analyzed quickly and summarized for review by the administrative people in the Department.

### Convenience

The citizen making an initial application does not have a central source of information as to his legal obligations. However, once referred to the Department of Health, the service as given is courteous and as prompt as possible. Renewals are serviced by mail.

\*ED. NOTE: See digest of APHA Report, Chapter XVI, Section 1.



## Greater Operating Effectiveness

District assignments should be rotated every six months instead of every six weeks. Inspectors' field time should be increased from 75 to 85 percent of total working time by reducing time spent in field-report writing and office clerical work. Travel time could be reduced by encouraging the use of private cars by paying a mileage rate instead of carfare. The handling of inspectors' expense accounts could be reduced or eliminated by arranging for them to travel on public transportation and phone in to the office on a "charge basis."

Several interdepartment organization changes appear advisable. The work of the Division of Institutional Inspection of the Department of Hospitals should be consolidated with the work of the Hospitals Division of the Department of Health, and the new Division should be given authority to operate under a much broader jurisdiction, made possible by legislation which would bring all institutions in the City under one jurisdiction, with uniform licensing requirements.

The investigation of many types of housing complaints should be transferred to the Division of Housing of the Department of Housing and Buildings together with an equivalent number of inspectors.

It is estimated that the transfer of functions as recommended would be equivalent to about 25 inspectors, and would reduce the size of the Bureau of Sanitary Inspections by about 40 to 50 percent.

The opportunity for saving up to \$100,000 a year by the elimination of a possible duplication in the inspection and control of milk supply should continue to be considered. Duplication is

caused by overlapping control by City, County, and State authorities.

Within the Department, inspectional work should be decentralized by shifting field control of the 30 health districts. Consideration should be given to the elimination of possible over-protection caused by secondary inspection of shellfish in retail outlets, as proposed by another study for the Mayor's Committee.\* The Retail Division of the Bureau of Food and Drugs, which now inspects eating establishments, should take over from the Shellfish Division the inspection of shellfish served in eating establishments. The self-inspection program, now largely confined to about 10 percent of restaurants and 20 percent of groceries in the Retail Division of the Bureau of Food and Drugs, should be extended in order to free inspectors for better control of other activities. Consideration should be given by the Wholesale Division of the Bureau of Food and Drugs to the possibility of devising a sampling procedure for inspecting country-dressed carcasses, in order to reduce the cost of inspection, which is nearly three times the revenue derived from the function. The saving would be \$23,500 in personal services.

From an economy angle, the office clerical and administrative cost of issuing permits should be reduced from the already low cost of \$1.19 (of which \$0.82 is personal service) to an attainable figure of \$0.80 a permit, by such measures as getting authorization for eliminating or changing certain parts of the routine now felt necessary, and the use of typing in place of handwriting.

The permit cost appears to be the lowest of any of the permit issuing

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\*ED. NOTE: See digest of APHA Report, Chapter XVI, Section 1.



agencies in the City (cost analyses made on the agencies covering 78 percent of the volume of licenses, permits, and certificates issued by the City of New York). Other cities, however, using only slightly more mechanized methods than the Bureau of Permits, show permit costs which are lower: Denver, \$0.40; Rochester, \$0.54; and Toledo, \$0.83.

The reasons for the higher New York costs are: partly more costly routines and additional steps taken (referral to inspectional unit, collection of fees, format of actual license/permit certificate); complicated renewal procedure; possibly a lower degree of effort and higher salaries; partly, added convenience offered by New York City (applicant charged only if permit is granted).

### Greater Revenue

Out of the total "deficit" of \$726,094 suffered by the Department on revenue-producing activities, actual or potential, 63 percent, or \$454,594, should be eliminated by increase in present fees for fee permits, and establishment of fees on some no-fee permits.

Of the above-mentioned deficit, 37

percent, or \$271,500, should be eliminated by establishing fee permits on activities now requiring inspection, but not required to secure permits. The net increase in revenue would be \$223,820.

Twenty-six increases in fees are recommended, details on which were passed on to the Department. Among the important ones are the bakery sanitation certificate, raised from no fee to \$20; bathing establishments from \$5 to \$50; commercial treatment of water coils and tanks from \$10 to \$55; frozen desserts from \$10 to \$25; purveyor of inhalation therapy from \$25 to \$50; milk and milk products, Class A (pasteurizing plants), from \$5 to a sliding fee of \$50 to \$5,000; milk and milk products, Class B, \$5 to \$100; restaurants from \$10 to a sliding scale of \$15 to \$50; shellfish, wholesale and retail, from \$25 to \$50.

The accumulation of a large and unnecessary surplus in the Old Pension Fund, which receives most of the Department's revenue from permits—and would receive a greater portion of the proposed increase in revenue—should be avoided, if possible, by transfer of a portion to the General Fund.\*

## DEPARTMENT OF MARKETS

The Department of Markets operated with a 1950 budget of \$1,435,747 and with over 400 employees. It is primarily concerned with the regulation of the procurement, inspection, and distribution of the food supply of the City of New York. In doing this it also exercises regulation over some related activities, as well as having the following responsibilities:

(a) Making sure that food products and other commodities are weighed and measured correctly.

(b) The inspection of live poultry

prior to wholesale and retail distribution.

(c) The operation of a varied group of markets at both the wholesale and retail level to provide a variety of foods to the greatest number of people through the most economical methods of procurement and distribution.

(d) The education of the consumer through an information program concerning the economical selection, preparation, and care of food.

\* ED. NOTE: A large portion of the surplus in the Pension Fund was transferred to the General Fund before this Report was submitted by the consultants.



## Bureau of Weights and Measures

Adequacy of protection should be increased by getting a complete record of all premises using weighing and measuring devices, and inspecting them on a scheduled basis. For a number of years the bureau has desired but never has been able to undertake the task of accounting for all premises requiring regulation. The Bureau of Weights and Measures should establish a "Statistical and Records Section," with aid from the Analysis Division of the Bureau of the Budget. A master file should be established that would contain cards for each business.

Inspectors should all be in Civil Service; should receive in-service training; should be rotated every three to six months in their district assignments. Of the 89 inspectors, 33 are provisional appointees. No Civil Service examination for the classification of "Inspector of Markets, Weights and Measures" has been conducted since 1936, a period of fifteen years.\*

To further increase adequacy of protection and also secure greater operating effectiveness, supervisors should spend at least half time in the field and should spot-check work of inspectors. Observations during field trips with inspectors indicated on numerous occasions that weighing and measuring devices lacked official seals, or that the official seal was not dated and initialed by the examining inspector.

Greater operating effectiveness could be secured by inspectors reporting

directly to their districts instead of coming in to Headquarters; and by working alone instead of in teams (one Civil Service with one provisional employee). Field supervision should be increased from 7 to 12, and supervisors should be relieved of most of present clerical work, thereby gaining time to evaluate inspectors' performance (as in the Department of Health).

Even if the supervising inspectors were able to spend 75 percent of their time in the field, which they are not doing at present, it is felt that one man cannot effectively supervise the work of as many as 11 inspectors. An average of about 6 inspectors would be advisable. This would raise inspections from 125,000 to 200,000 annually, and save \$53,298 in personal services.

License issuance cost should be reduced from \$1.67 to \$1.00, by simplification of procedure and reduction of personnel. It would be advisable to combine all license and permit issuance in the Department in one unit, and probably, ultimately, transfer these transactions to the Department of Licenses.

The processing of violations and complaints needs reorganization. The work load appears to be decreasing steadily without reduction of clerical force. Citizen complaints should be transferred from the special squad to district field inspectors, where possible.

Effectiveness of the inspectional force as a whole should be increased by use of work standards. The present authors worked out a standard of 4,000 inspections a year per inspector for district inspection, *based upon reporting to the Office each morning*, applying to 49 of the 77 inspectors. For the other 28 inspectors, standards have been estimated, ranging from 2,000 to 3,000. Based upon these standards, derived

\* ED. NOTE: According to the Bureau of the Budget, the retention of the provisional employees was attributable to court action brought by the provisionals restraining the City from using lists declared appropriate by the Civil Service Commission. This action has since been adjudicated in favor of the City, and the provisionals are being replaced by Civil Service employees.



from bureau records, it seems reasonable to expect 263,000 inspectional visits a year.

However, efficient operations might require an increase from 125,000 to 200,000 inspections a year. But, if district inspectors *report directly to their districts in the morning*, the work standards for district inspections could be increased 10 percent. Based upon all the foregoing, the present inspectional force of 77 men (excluding supervisors, laborers, and auto engine men) could be reduced by 23 men, costing \$68,000, distributed among the various units.

Some increase in revenue (\$5,000) could be secured by a change in the basis of vehicle weighing fees.

### **Division of Live Poultry**

During the period of the late thirties, the marketing practices of commission merchants and dealers were subject to much criticism, primarily because most merchants acted in a dual capacity. The Live Poultry Terminal of the City of New York was established in 1942 under the jurisdiction of the Department of Markets and the U. S. Department of Agriculture. It is headed by a capable director with a staff of 63. Operations are well handled but, because of increasing costs, the division loses \$50,000 a year on an income of \$200,000. It should break even.

To insure adequacy of protection, field inspectors should merely spot-check live poultry wholesale and retail markets and slaughterhouses, but should be controlled by a minimum standard of frequency. Four field inspectors should be sufficient.

A test schedule should be established for mobile, roving inspection of possible "smuggling" of uninspected poultry by sources outside of the City during both

night and daylight hours. At the Terminal, a limited-duty inspector should be assigned on the main gate for visual inspection of incoming and outgoing vehicles. If financially possible, installation of automatic computing scales that issue a printed receipt should be considered.

Costs should be reduced by various means. The annual renewal license issuing functions could be transferred to a central unit within the Department of Markets, or the Department of Licenses. Field inspectors assigned to duty with the Division of Live Poultry should be assigned City automobiles or permitted the use of personal automobiles on a mileage basis, in order to cover widespread inspection districts more effectively. An agreement should be made with the Department of Health to eliminate the duplication of frequent routine inspections of wholesale and retail poultry slaughterhouses by inspectors of both Departments. Finally, the issuance of an "average cost" inspection ticket should be considered, one that would include all fees on a per coop or basket basis (weighing, inspection, and platform fees).

Possible revenue increases might be found by considering the raising of certain fees as recommended in a report on revenues submitted to the Commissioner by S. H. Renik, Departmental Analyst, on April 15, 1948.

### **Division of Markets**

The various market divisions of Markets are charged with the operation of City-owned retail markets and City-owned wholesale markets. They issue a variety of licenses and permits dealing with markets or retailing of food products. They also collect rental fees and enforce the Kosher food section of the New York State Penal Law.



Of the approximate \$1,700,000 total income from fees, about \$1,500,000, or 88 percent, is received for use of space in City-owned market facilities. In other words, the City of New York has a rather extensive landlord-tenant relationship in the management of its market operations.

Gross expenses are about \$1,440,000. The gross "profit" of \$260,000 is possibly only a minimum return on the City's capital investment combined with the loss of tax rateables.

Adequacy of protection should be assured by emphasizing the certification of weighing and measuring devices used on City-owned or operated premises by the Bureau of Weights and Measures. Boundaries of stoop-line licenses should be adhered to more rigidly. A Kosher squad should be established as an inde-

pendent unit reporting to the Assistant Commissioner.

For greater operating effectiveness, inspectors should be trained in market management. License issuance should be transferred from the Division of Retail Markets and the Division of Farmers' Markets to a central issuing unit in the Department of Markets or to the Department of Licenses.

For greater revenue, rates should be raised on retail and wholesale market space by 15 percent; retail itinerant peddlers' licenses should be approximately doubled; and fees for stoop-line stands should be raised from \$10 to \$25. Through legislation, all retail and wholesale dealers in Kosher foods, not licensed for other activities, should be licensed to return part of the \$30,000 enforcement cost.

## FIRE DEPARTMENT

In New York City the 1950 fire loss was \$19,512,870, representing about one-tenth of 1 percent of the assessed valuation of real estate. Loss of life amounted to 124 people.

Authorities agree that at least 50 percent of the nation's fires can be prevented. However, the amount of a fire department's budget allotted to fire prevention activities is small compared with that allotted to fire extinguishment. This study is confined to the part that regulatory inspectional activity plays in the fire prevention program. It is normally a large part, but in New York City it is almost the entire program.

### Adequacy of Protection

Protection can be improved considerably. The Fire Prevention Code should be revised. Although adequate in general, it is, in places, needlessly strict,

and in other places it ignores hazards introduced by recent developments. For instance, although there is strict regulation of the use and storage of 35 millimeter film, this does not apply to 16 millimeter film, although this size is extensively used in television studios.

The present Fire Prevention Code appears as Chapter 19 in the Administrative Code. Only twice in the last 15 years have additions to it been made. Details on modifying provisions that are now needlessly strict, clarifying provisions that have proved to be too vague, or adding provisions to cover hazards which have arisen or which were originally overlooked have been transmitted to the Department. It is desirable that the detailed fire prevention apparatus specifications not be frozen into the Code itself, but that they should be available as rules and regula-



tions and in a more complete and readily available form than that of minutes of the Board of Hazardous Trades. Even these minutes supply only partial coverage.

The New York office of the National Board of Fire Underwriters has, at the request of the present authors, made a comparison of the New York City building and fire prevention laws with the National Building Code, which is the standard of the National Board of Fire Underwriters. The detailed NBFU evaluation, by E. W. Fowler, Assistant Chief Engineer, was transmitted to the Department. Analysis of his comments shows that the New York City Building Code is somewhat less acceptable from a fire safety standpoint than two carefully designed regional codes—the Uniform Building Code of the Pacific Coast Building Officials' Conference, and the Southern Standard Code of the Southern Building Code Conference. It is deficient as well with respect to the NBFU's own Code.

Examination of the amendments to the Multiple Dwelling Law indicates that the co-ordination of fire protection and the construction of modern, garden-type apartments is a subject on which action is being taken.

So far as concerns the attempts of the City to build fire protection into new multiple dwellings and also to alter Old-Law dwellings for more complete fire protection, there still remains a grave hazard in multiple dwellings—that of human carelessness, combined with various appliances such as gas ranges and kerosene stoves. This is an educational problem and, properly speaking, part of a fire prevention program.

In general, New York fire protection standards, while they may fall short of

100 percent perfection in the eyes of the National Board of Fire Underwriters, are good compared with other large cities. The most important contribution to better and more economical regulatory inspection of fire hazards would be a revaluation of the amount of risk on various hazards in order to pave the way for more effective and/or economical use of fire prevention personnel.

Certificates of Approval are given on an article manufactured for sale, such as an electric appliance. There has been some criticism on the part of manufacturers who feel that if their appliances are approved by the American Gas Association or the Underwriters' Laboratories or others, it should be satisfactory to the City of New York. The Fire Department feels that these agencies are partially supported by manufacturers and that, for complete protection of the citizens, independent tests should be made. This Report recommends that these tests be eliminated.

Combustible permits involving major hazards are handled by the Headquarters Force of the Division of Fire Prevention and Combustibles. Those involving minor hazards are usually referred to the company building inspectors who operate out of the various company fire houses. These are covered thoroughly, and many of the inspectors have sufficient experience so that they are able to do a good qualitative job on such inspections. However, the training of company building inspectors is not so good as it might be.

The examination and inspection of applicants for certificates and permits should be more strict on serious hazards, such as transportation of inflammable liquids, and less strict on minor hazards, such as oil burner installations of less



than 550 gallons, and Class C commercial refrigeration installations. Substitution of 30 percent spot check on about 78,000 of such fuel-oil, and 44,000 refrigeration installations would save \$475,000 annually.

Fire prevention standards could be better enforced by covering all fire risks through: (a) enlisting the aid of inspectors of other Departments, especially Housing Inspectors in the Housing Division of the Department of Housing and Buildings, and (b) using inspectional time to better advantage by making inspections for renewal of combustible permits on a block-by-block basis, instead of just prior to the expiration dates. New inspectors should receive in-service training; old inspectors, refresher courses. Fire prevention work might well be part of the training for promotion in fire extinguishment and, in general, regulatory inspection should be incorporated in a comprehensive, planned, fire prevention program instead of being treated as an end in itself.

### **Possibility of Greater Economy of Operation**

The Fire Department units concerned with regulatory inspectional activity consist of the Division of Fire Prevention and Combustibles, the company building inspectors and their relation to this division, the Division of Licensed Places of Public Assembly, and the Theater Detail. The payroll for these units is about \$3,500,000, but is a small part of the total Fire Department payroll. This payroll represents the more formalized portion of the Department's fire prevention activity. About 90 percent of this payroll is spent on regulatory inspectional activity; the remainder on fire prevention activity of a general

and educational nature. Nearly 50 percent of the whole \$3,500,000 budget for personal services is spent on the mechanics of issuing new permits and renewing old permits on combustible hazards.

Operating effectiveness could be improved greatly. Inspections for renewal of combustible permits should be dispatched on a block-by-block basis during the year, instead of at the time of expiration of permits, thus avoiding duplication of travel time and saving \$63,000 a year. This contemplates relieving the Fire Department of responsibility for inspection of original fuel-oil-burning heaters, now adequately covered by other City agencies.

The 360 company building inspectors assigned to the companies should be relieved of their inspectional duties. The making of all inspections should be returned to the Headquarters Division of Fire Prevention and Combustibles. Disposition of the manpower thus released should be as follows: 200 men to service in the companies; 60 men to relieve company commanders so that they can inspect their districts more thoroughly; and 100 men to make available additional civilian inspectional assistance for the Division of Fire Prevention and Combustibles.\*

The \$475,000 saving through less strict inspection on minor hazards has already been mentioned. The present Theater Detail, involving the equivalent of 90 full-time men, should be returned to the companies full time and replaced by employees of the theaters; such employees would be required to secure certificates of fitness from, and be super-

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\* ED. NOTE: This recommendation is at variance with that of the Lazarus Report on the Fire Department, Chapter XVIII, Section 7. The Mayor's Committee favors the Lazarus recommendation against extreme centralization of building inspections.



vised by, Fire Department personnel. This would save \$450,000.

Mechanization of combustible permit issuance, already proposed by the Division of Analysis, should be carried through completely, thus reducing cost from \$2.49 to \$0.92 per permit. It should be possible also, after the mechanization is completed, to alter the major steps in the licensing procedure to save an additional \$0.15 per permit. (Details on the review of mechanization were transmitted to the Department.) Savings are estimated at \$339,000, net of Division of Analyses recommendations.

Inspections of original installations of fuel-oil-burning heating apparatus should be consolidated to eliminate duplication of work by four inspectional units, thus saving \$56,000 annually.

The grand total of the above estimated savings is \$1,383,000.

### **Greater Convenience to Public**

In changing occupancy to a more hazardous use, convenience to the public

could be increased by eliminating deadlocks between the Division of Public Safety in the Department of Housing and Buildings and the Division of Fire Prevention and Combustibles in the Fire Department. In addition, apparatus passed by nationally recognized testing laboratories, such as maintained by the American Gas Association and the National Board of Fire Underwriters, should be accepted by the Fire Department through the Board of Standards and Appeals without requiring additional tests by local testing laboratories.

### **Revenue**

No increase should be made in permit fees in order to bring revenue up the 22 percent necessary to equal present cost. This would require about \$424,000 more revenue, but recommended savings would reduce permit costs by \$1,020,000, even without counting savings from the recommendations on Theater Detail and original installations of fuel-oil-burning heaters.

## **POLICE DEPARTMENT**

Out of a budget of \$106,000,000, the Police Department spends \$765,000 on personal services devoted to regulatory inspectional activities, not including routine inspections made by patrolmen and those made for other departments. This work falls under the Fourth Deputy Police Commissioner and centers in the License Division. The division issues twenty types of licenses, returning \$617,000 in revenue. It regulates the "transportation for hire" business, cabarets and dance halls, weapons of aggression, and noise devices.

### **Adequacy of Protection**

Enforcement by regular inspections appears adequate. However, it is not

necessary to inspect licenses immediately prior to license renewal. Renewal should be routine, and revocation made at any time that inspection indicates it advisable.

More effective operation is quite possible. License issuance alone costs \$280,000, or from \$2.26 to \$5.93 per license issued. This could be reduced to about \$1.42. Analysis of the 93,000 licenses and permits issued annually shows that of the 52 employees involved, each averages less than eight licenses per day! By handling renewals by mail, consolidating the four license-issuance bureaus, cutting down top-heavy administration, scheduling contacts with applicants on fingerprinting,



examinations, etc., replacing uniformed personnel with civilians, and eliminating longhand preparation and copying of forms, about \$147,000 can be saved, or 52 percent of license issuance cost. Field inspection costs \$485,000; no attempt was made to investigate possible savings here.

A serious organization weakness exists, namely, the existence of four separate bureaus within the License Division for the handling of 20 types of licenses. The basic reason for this is obscure, since it is doubtful if "specialists" are required to issue, let us say, a cabaret license to an applicant.

Finally, serious consideration should be given to transferring the entire licensing function out of the Police Department and over to the Department of Licenses. Admittedly, this latter group must first be properly reorgan-

ized to assume a greater share of its logical responsibilities. However, when this requirement is met, there should be no delay in turning over police license-issuance activities to the Department of Licenses. Such a move would constitute a definite step toward further practical centralization with a resultant added convenience to the licensee and greater economy to the City.

### Revenues

During the preparation of this Report, there was a bill before the Council seeking eight specific increases in fees in order to secure greater revenue. This Report concurs with this bill except that it recommends an increase for the hack driver's license from \$10 to \$40 instead of \$25, in order to return the cost of regulation. The additional increase would yield \$107,000.

## BUILDING REGULATION

Building regulation is a big operation, most of which falls within the Department of Housing and Buildings. Four other agencies, counting the five Borough Presidents' Offices as one, also participate.

### New Construction

Adequacy of protection can be increased by improving established standards. The Building Code should be separated, as originally intended, into a skeleton code consisting of basic administrative and structural requirements, and a supplement consisting of regulations of the Board of Standards and Appeals. It should incorporate national standards by reference, wherever possible, supplementing them where necessary. The Building Code should be revised as follows: to cover all areas subject to regulation; to conform with

acceptable and economical practices; and to eliminate inconsistencies.

Adequacy of protection can also be improved by means of better enforcement. For instance, the intent of Sections C26-161.0(g) and C26-187.0 of the Building Code, or any revision thereof, should be carried out, requiring proof of experience by individuals making affidavits as to quality of construction at the time a Certificate of Occupancy is requested. Moreover, the Charter should be amended to give the Department of Housing and Buildings sole jurisdiction over the fire safety of new construction.

On plan examination, steps should be taken by the City administration to enable the Department of Housing and Buildings to secure better men and to stop turnover. Present plan examina-



tion employees should not be pulled off duty for inspection work in the field.

On field inspection of construction jobs, an aggressive enforcement procedure would require: (a) reorganization of inspection force to provide fewer inspectors of much higher caliber, with proportionate compensation; and (b) enforcement of the provision requiring that work be "supervised by a licensed architect, professional engineer, or by a Superintendent of Construction who has had ten years' experience supervising building construction and who has been properly qualified." After construction is completed, a Certificate of Occupancy must be secured by the owner. There is overprotection involved here in that, before issuing this Certificate, and following approval by other inspectional units, the Public Safety Section makes its own inspection. On the other hand, it would appear important that, in addition to the approval already received, Public Safety should secure approval of the electrical work from the Department of Water Supply, Gas and Electricity.

Greater convenience could be provided by streamlining the building permit procedure.

Greater operating effectiveness should start in this same area. Permit issuance forms could be improved to reduce clerical work in the Public Safety Section in securing approvals and issuing Certificates of Occupancy. It would also assist supervisors to control field inspection. A much better job could be done in this area if supervisors were freed of clerical and inspectional work, and if their number were increased. This would permit the operation of a job-control system under which a contractor would notify the office when he

starts a job. The district building inspectors reporting to these supervisors should, in turn, be freed from pencil pushing by means of field report forms that can be filled in as they go from job to job. In fact, inspectors should report to the office only two or three times a week, phoning in once or twice a day. Other City departments do this. The compilation of monthly expense accounts should be eliminated by a "charge" system on rides and phone calls. Districts should be rotated, possibly annually. More use should be made of the telephone and the mail to avoid needless trips by inspectors.

In other cities a much-discussed approach to greater effectiveness is the combination of duties of specialized inspectors. In New York City, the unit that specializes in plan examination and field inspection of new or altered multiple dwellings should be merged with the one that handles all types of construction, thus saving about ten men. Furthermore, the possibility of transferring to district inspection some of the specialized new construction inspectors (plastering and steel), now comprising 14 percent of the force, should be explored.

Maintenance of Old Construction

In 1950 there were about 730,000 buildings and structures in the City, divided as follows:

Residential, one- and two-family dwellings.....	498,163
Residential, multiple dwellings .....	156,130
Nonresidential, commercial .....	69,651
Nonresidential, churches, synagogues, hospitals, homes, libraries, Park Department build- ings .....	6,013
Total.....	729,957



Of these, several hundred are demolished annually as unsafe. A minor suggestion relates to the expediting of legal procedure governing demolition. A block-by-block inspection of the 76,000 nonresidential buildings should be undertaken to reveal unsafe conditions and unauthorized changes in occupancy. A reorganization of the work of the Public Safety Section in each Borough office would permit it to expedite this program.

The 498,163 one- and two-family dwellings house 2,500,000 persons, or 31 percent of the population. The Committee on Housing of the Community Service Society found, in a recent survey, by sampling, that about 35,000 of these dwellings (housing 175,000 people) are substandard. Of these, about 13,000 (housing 48,000 people) are totally unfit for habitation. It considers the problem "not so small as to be dismissed, nor so large as to be alarming," and recommends: (a) revision of the Sanitary Code, (b) freeing the Bureau of Sanitary Engineering (and Bureau of Sanitary Inspections) for Code enforcement, and (c) survey and then inspection of all substandard one- and two-family dwellings. No independent investigation was made in this area.

The 156,130 multiple dwellings house 5,500,000, or 69 percent of the people. Of these, 55,228 are Old Law tenements, built prior to 1900, and house 24 percent of people living in multiple dwellings. At the present rate of replacement, it will take 80 years to eliminate these tenements. The remainder were built to conform with the much higher standard of the 1900 Law and the still higher standard of the 1929 Law. Although originally they were structurally adequate, maintenance may have been poor

and, moreover, conversions to multiple dwellings sometimes escape notice.

To cope with these conditions, the better housing movement divides into (a) a long-range program involving co-ordination between City, State, and Federal agencies, and the use of public and private capital—all of this program designed to replace substandard with modern housing; and (b) a "hold-the-line" program involving the City regulatory inspectional agencies and the landlord-tenant groups. This Report is concerned only with the latter part of the program.

The "hold-the-line" part of the program is in the hands of the Division of Housing of the Department of Housing and Buildings. It has been plagued since 1915 with insufficient personnel, poor support topside, and lack of ingenuity in the division administration. It has developed two tools: one the show-cause summons, which brings recalcitrant owners before a quasi-judicial hearing and the other a periodic inspection program, which attempts by "preventive maintenances" to discover and correct violations before citizens complain. Because of the collapse of the latter program, the processing of citizen complaints is now the major part of the division's work load, and a backlog of complaints equal to a year's work has rolled up. The division needs not minor improvements, but elbow room in terms of time, people, and authority to make a sweeping changeover.

Preparation for such a changeover should be made by ensuring adequate protection from established standards. All ordinances on maintenance should be separated from those on new construction and included in a Housing Maintenance Code. There should be continuous direction by the Mayor, from



a policy standpoint. The present three-step enforcement procedure should be made more effective in producing either compliance or penalties, by high-level agreement and reasonable methods by which owners can comply, and by all-out support of the Department in enforcing such procedures. The alternative is the imposition of heavy penalties. A program for attacking the maintenance problem should be devised by the Deputy Commissioner. Inspectors should receive in-service training.

Convenience to citizens should be provided by enlarging the scope of the Complaint Bureau to receive all housing complaints, including those referred to Health and Fire.

The changeover from regulation by complaint to regulation by positive control would involve:

(a) Concentration for one month's time of 75 percent of the total inspectional force on the job of reducing, by removal from the files, of all but 100,000 of the 348,000 complaints (this would probably require legislative approval).

(b) Increase in the inspectional force from 201 to 332 inspectors for one year.

(c) Assignment of 260 of these inspectors to cleaning up the reduced backlog of 100,000 complaints, and to maintaining schedule on the current influx of complaints.

(d) Assignment of 72 inspectors to block-by-block inspections, and completion of inspections on 29 percent of the multiple dwellings during the first year.

(e) Release from the division at the end of the first year of 57 inspectors (retaining 74 inspectors).

(f) Successive transfers from complaint investigation to block-by-block inspection, until at the end of the fourth year there are only 25 inspectors on complaints and 250 on block-by-block inspections.

Improvements in operation could be made which would hold the additional cost of the above program to \$100,000 a year for four years, and to \$36,000 after that. This would involve simplification of complaint routine, transfer of new multiple-dwelling plan examination and inspection to Construction Section, and increase in performance on block-on-block inspections. Duplication of inspections by legal and housing inspectors should be eliminated. Good dispatching and the use of post cards of notification would also help. The division should handle heat complaints with personnel transferred from Health.

### **Regulation of Auxiliary Equipment**

Elevators in the City total 45,000. New installations have averaged 200 a year. An elevator section of the Department of Housing and Buildings in each Borough office examines plans and inspects for new installations. It also makes about three "preventive maintenance" inspections a year per elevator, although the law requires four. Even the three, of necessity, must be fairly superficial. No charge is made for any of this.

The present Elevator Code, dating from 1931, is fairly good and will be better. But 90 percent of the elevators were built under the old code and cannot be made to conform to the present code unless they receive a major repair job or can be proved to be in unsafe operating condition. This throws a burden on the inspectional force that it is not manned to handle.

It is recommended that the State establish a board for examining and licensing all elevator inspectors, City and private, and that elevator insurance be made compulsory. The City should then accept casualty-insurance company inspections in lieu of City inspection.



This would permit a 75 percent reduction in the present force, thus saving \$287,000. The remaining 25 percent would regulate new installations, inspect elevators lacking insurance for temporary or technical reasons, reinspect and prosecute owners on violations reported by casualty company inspectors, spot-check casualty company inspectors' work, and inspect amusement devices. The casualty companies would be required to furnish copies of reports of inspections at a nominal cost, and to notify the City when insurance is canceled or transferred.

About half of the large cities follow this practice, as do most of the larger states.

Boiler inspection presents a similar problem. In the 730,000 buildings in the City there are an estimated 83,000 boilers falling under the City's jurisdiction. However, only 35,000 are under license and receive an annual inspection. These returned a revenue of \$126,000 in 1950, against a cost of \$150,000. The City performs by law an annual hydrostatic test and checks the safety-valve operation for boilers of 10 pounds pressure and up. Insurance companies make an annual internal and an annual external inspection, staggered by six months, on boilers of more than 15 pounds pressure. The latter is a more thorough inspection than the City's.

It appears that neither in coverage nor in type of test given is the City boiler inspection complete because it is undermanned for full coverage, and the test is prescribed by law.

To get better protection, more revenue, and potentially less expense, the City should accept casualty-insurance company inspections in lieu of City inspections. Chicago is the only other large city in the nineteen northern in-

dustrial states that requires City inspection duplicating insurance inspection.

It is recommended that a Board of Examiners be established, recognized by both City and insurance authorities for examining both City and insurance inspectors. An annual compulsory inspection would have to be secured from all owners of boilers under regulation. Insurance company reports would be submitted to the City for follow-up on violations on boilers carrying insurance. The City would be notified of all cancellations or suspension of policies.

Local Law No. 159 would be revised to relieve the Commissioner of the responsibility for inspections and to make all owners responsible for securing an annual boiler inspection conforming with the "Uniform Boiler Ordinance." City inspectors would concentrate on uninsured boilers, but the division would have a record of all boilers carrying insurance, and all would have declarations from owners.

The division should establish a delinquent account unit, with the power to enforce collections through fines and to courts. The present force of boiler inspectors can well be used in order to follow up on the extended coverage provided by declarations from owners. As the inspection work load on insured boilers dwindles, the City inspection force can be reduced. Inspectors should report to the office twice a week, not daily.

When inspections are made by insurance company inspectors, only 50 percent of the license fee should be charged. However, all owners should pay annually for a Certificate of Registration. This gives a potential reduction to an individual owner, but since coverage would increase from 35,000 to 83,000



TABLE III—OPERATING STATEMENT

	Personal services cost (1950)	Revenue (1950)
Housing and Buildings .....	\$4,103,032	\$1,226,680
Civil Service .....	23,540 <sup>1</sup>	6,870
Water Supply, Gas and Electricity .....	618,678	317,115
Borough Presidents' Offices .....	800,000 <sup>1</sup>	786,000 <sup>1</sup>
Board of Standards and Appeals .....	132,199	0
Fire Department .....	410,000 <sup>2</sup>	0
Total	\$6,087,499	\$2,336,665

<sup>1</sup> Estimated figures.

<sup>2</sup> Seventy percent of cost of Division of Licensed Places of Public Assembly.

the increase in revenue would be \$312,172 a year.

Hoist and rigging regulation involves 47 riggers and 1,774 special riggers. The City licenses these individuals and inspects rigging jobs at random. Possibly notification could be given the City by the rigger.

### Greater Revenue

Building regulation is not self-supporting. It costs \$6,100,000, 39 percent of which is covered by revenue. At least \$1,600,000 of this (housing control, Board of Standards and Appeals) represents costs that cannot yield revenue. The "operating statement" on building regulation (1950) is shown in Table III.

Any appreciable gain in revenue must come from the Departments of Housing and Buildings, and Water Supply, Gas and Electricity. The Division of Analysis of the Bureau of the Budget joined with the former Department in proposing to the Council, in 1951, fee increases yielding \$1,187,844 based upon 1950 volume. The recommendations submitted for building regulation in this Report will yield an additional \$1,582,172, and possibly \$105,000 more. These would raise revenue to \$5,200,000, as follows:

(a) *New building construction and alterations*—New York City charged nothing for building permits up to recent times. The 1951 revision raises revenue from 27 to 44 percent of the cost of regulation. This revised scale of fees is still only 63 percent of the Detroit scale, 60 percent of the Chicago scale, 55 percent of the Philadelphia scale. A further revision is recommended raising the scale of fees to 100 percent of the cost of regulation. This will be about 37 percent higher than the fees of the three cities mentioned, indicating that cost of regulation may be higher in New York City.

(b) *Other permits (marquees, dropped curbs, signs, etc.)*—Fee increases have already been proposed in 1951. No further increases are recommended. These all return more revenue than the cost of regulation, and this is justified for the most part by the use made of City streets.

(c) *Water permits*—Revenue was \$209,000; cost \$230,000. No recommendations were made by the Division of Analysis and none are made in this Report.

(d) *Electrical permits*—Cost of regulation is \$372,967, or \$1.40 an inspection for 266,390 inspections, of which 70 percent involve new construction. A charge of \$2 for the present Certificate of Inspection would return \$372,000.



(e) *Auxiliary equipment*—Revenue from boiler licenses, regulated as discussed, would yield an additional \$312,172 a year.

Elevator inspection has been yielding no revenue, but in 1951 it was proposed by the Division of Analysis and the Department of Housing and Buildings that an annual \$10 fee be established, yielding \$440,000 in revenue. If the recommendation is adopted that insurance inspections be accepted by the City in lieu of its own inspections, then it is also proposed that the \$10 fee remain

as a registration fee. In addition to this, the City should charge an additional \$10 inspection fee for each passenger elevator and \$5 for each freight elevator on which the City performs the inspections because of failure to submit insurance clearance. This fee should also be charged when elevator alterations made by the owner are inspected, or when the City makes an inspection because of violations reported by the insurance company inspector, or similar source. It is estimated that this would yield \$105,000 annually.

## DEPARTMENT OF MARINE AND AVIATION

The Department of Marine and Aviation, with a budget of \$7,900,000, is responsible for regulation and, to some extent, for operation of New York City's waterfront.

The basic function of the Department is to furnish suitable terminal facilities for water-borne commerce. In addition, it provides ferryboat transportation between the Boroughs and public institutions located on islands in waters of New York Harbor. In recent years, its authority over terminal airports was transferred, by mutual agreement, to the Port of New York Authority.

In accomplishing this purpose, the Department engages in regulatory inspectional activities consisting of the regulation of new-construction property usage by private owners of waterfront property; and the regulation of usage made of City-owned waterfront property by water-borne commerce.

### Bureau of Engineering

Standards for private construction on waterfront property, and their enforcement, appear adequate.

However, the rules and regulations of the Department covering waterfront construction, and supplementing the

City Building Code, need codification. Moreover, many of these Department rules are very old and, because of this, should be revised. For instance, all substructures above an elevation of two feet above mean low water should be of fireproof construction. The present Work Permit procedure (corresponding to plan examination and building permit issuance in building regulation) is very cumbersome. In 1948 the Department's Analysis Unit proposed a streamlined procedure, but it has not yet been put into effect. This could save \$15,000 out of the \$58,660 payroll.

No charge is made for work permits, and it is recommended that fees be established. To use the scale of fees now in effect in the Department of Housing and Buildings would yield a revenue of \$23,000 a year, which is 39 percent of the cost of regulation.

### Bureau of Property Management

The type of regulation carried on by the 22 dockmasters of the Division of Dock Superintendence is designed mainly to collect revenue for the City and, to a lesser degree, to protect citizens from hazards.



Dockmasters do a fair job. In-service training in building inspection would enable them to detect unauthorized construction and help the inspection section of the Bureau of Engineering in other ways.

Dockmasters are supposed to cover their districts once a day. A man can cover two districts easily, using an automobile. Some consideration should be given to the possibility of one man handling three districts by car.

**Greater Revenue**—The bureau acts as the real estate department of the

organization, and the dockmasters are collection agents. Net return on the \$250,000,000 investment in harbor facilities (excluding ferry operations) is only 1.7 percent. No recommendations are offered for increasing this substantially. It is felt that \$16,000 might be secured annually by getting written records of weights for calculating top wharfage fees (assessed on goods remaining on a wharf). More complete coverage of City-owned piers might net an additional \$8,000 a year.

## CRAFT AND OCCUPATIONAL LICENSING

In order to concentrate effort in the already extended coverage of regulatory activity, it was decided to omit any treatment of the subject of craft and occupational licensing. Enough field work was done to show that there were definite problems in this area, and that the Commissioners (especially of Housing and Buildings, Fire, and Health) have recognized the fact.

Twenty-five licenses are issued for crafts and about 14 for occupations (employees, not businesses). The borderline between a craft and an occupation is indistinct, as is also the borderline between an occupation and a business; these classifications are arbitrary.

Opinion in the departments having jurisdiction ranges from the feeling that Civil Service is doing a good job and should have jurisdiction as well as examining authority, to the attitude that a Central Licensing Board should be set up with examination facilities.

Opinion in Civil Service is that (a) an allowance should be made in the budget to cover the cost of examination, and (b) there would be no opposition to transfer of the function to a central licensing board.

It is recommended that further study be given to this subject.

## SUPPLEMENTARY STATEMENT

This Supplementary Statement furnishes additional comments on several areas which, in the opinion of the Subcommittee on Scope of the Mayor's Committee on Management Survey, merited more specific coverage.

### Consolidation of License Issuance

Opinions have been expressed that the immediate goal should be the consolida-

tion of all license issuance into a single agency, possibly operating through convenient branch offices through which the citizen could transact all his license and permit business. For the City there would be, it was felt, attendant economies as well. A realistic picture of what is actually attainable shows the following:



(a) Complete centralization is not expedient for functional reasons. Building regulation permit issuance (covering new construction and alterations, maintenance of existing buildings, inspection of new installations of auxiliary equipment) should be separated from craft, occupational, or business licensing (covering health, weights and measures, fair practice regulations, etc.).

(b) A division of licensing into two separate agencies, one for building regulation and one for all other types of regulation, would present varying degrees of convenience to the citizen. However, on many licenses the original *application for a license*, following initial orientation at an "information center," would be no less difficult than it is at present, and might in many cases involve a trip to one or more of the agencies that have jurisdiction over the particular area.

(c) With a volume of about 60,000 licenses yearly, some type of full mechanization is justified, and it would permit some reduction in cost over manual methods at this point. However, it is surprising how small a unit cost can be obtained, even at volumes as low as 10,000 licenses annually, by using streamlined manual methods largely.

In New York City the total volume is so large that almost all the present licensing agencies have a volume of at least 10,000 licenses; three of the largest agencies have volumes of 55,000 or more, at which point mechanization could be considered without further centralization. It is admitted that the full benefit of mechanization would require consolidation of these three largest agencies.

A total of about 560,000 licenses and permits is issued in the City annually (excluding permits for construction and

some auxiliary equipment) and, of these, 280,000 are issued by the Fire Department. A mechanization program is now under way in the Department. The issuance of the remaining 280,000 could be mechanized, if centralized, at a unit cost of about \$0.20 less than that of an efficient manual procedure. This would save \$56,000 a year for the City, and is a fair measure of the benefit of full centralization of all licenses, except Fire and Building Regulation. No such saving could be obtained in Building Regulation because of the nature of the permit issuance process.

However, there is a real economy possible on license issuance *without* centralization; namely, by operating each of the present five agencies, whose combined volume equals the 280,000 mentioned above, at a reasonable standard of performance and using manual methods. This standard has been mentioned in the main Report as being no higher than that maintained by the Department of Health in handling its annual volume of 65,000 permits. In some cases, the standard set is considerably lower; yet a total annual saving of about \$157,000 can be secured through this means.

The above saving would reduce unit costs, presently ranging from \$1.67 to \$2.35, to a range of \$0.70 to \$1.66.

(d) A further reason for the feeling that consolidation is no panacea *per se*, even though sound in principle, is the fact that under such an arrangement there must be solved a *serious problem of communication* between the centralized license issuance agency and the various regulatory inspectional agencies having jurisdiction. Even at present, departments complain about the slowness of others to respond to their requests for inspection when regulation



involves inspection by two or more departments.

(e) Finally, the Department of Licenses, which is the natural nucleus for a consolidated license issuance agency, should first develop for itself a level of effectiveness at least as high as the most efficient department whose function it will presumably absorb eventually—Health, for example.

### Consolidation of Inspections

A feeling exists in New York City that there are too many inspectors visiting the same premises, and that some of their duties could be consolidated for convenience to the licensee and economy for the taxpayer. Thus, a typical situation is one in which many private proprietary hospitals and homes are inspected by both the Department of Health and the Department of Hospitals, as well as Fire, Housing and Buildings, and Water Supply, Gas and Electricity. These are all vitally necessary inspections, but some consolidation would be welcomed.

Actual possibilities for consolidation must be scrutinized cautiously, in order to avoid reducing adequacy of protection. A health inspector and a building inspector have organizations in back of them that are vastly different in purpose and experience. Consolidation here is virtually impossible—let alone uneconomical—and it might be dangerous even if it were possible.

On the other hand, such highly skilled people as these employees might be rather easily schooled to make inspections not calling for previous technical training, such as weights and measures, housing maintenance, nontechnical fire prevention work, and business licenses. This possibility has not been touched upon in the main Report, because of

the City's difficulty in finding qualified people for the more highly skilled inspectional positions. Furthermore, it is important not to dilute their efforts in less highly skilled work.

The safest place for consolidation is in renewal inspectional work as contrasted with the *original* inspection. If the initial inspection is done competently by skilled inspectors (even if several are required) it is possible that less highly skilled inspections (those that could be made by a sort of "general district inspection") would suffice to check on the renewal of the license each year. The benefit to be gained is the saving in travel time made by letting one general inspector cover the premises to check on the renewal of several different kinds of licenses.

However, there are several other measures which will also reduce travel time, to such an extent that the use of a "general inspector" may not appear so attractive. These measures are:

(a) Establishment of a minimum safe frequency schedule and adjustment of this by a system of hazard control.

(b) Revision of inspection procedure, as related to license issuance, to permit scheduling inspection throughout the year, independent of license expiration dates, which permits block-by-block coverage by each type of inspector.

(c) Acceptance by the City of inspections made by other qualified agencies—private, State, or Federal. This is one step better than consolidation, in that there is no problem of training the inspectors in the certified agency. It has been mentioned in the main Report in connection with country milk control, boiler and elevator inspection.

Consolidation of inspections is nevertheless an important source of economy



in inspectional work. Two areas should be considered:

(1) Consolidation of work of specialized inspector with that of general district inspector in same Department, with approximately the same training and background.

Examples of this are:

(a) *Department of Housing and Buildings*—Assumption by District Building Inspector of some of the work of the Iron and Steel Inspector, and possibly the Plastering Inspector. Assumption by District Building Inspector of the inspectional work done by the Housing Inspectors on new construction and alterations of multiple dwellings. Assumption by District Building Inspector of the inspectional work now done by Plumbing Inspectors (of same Department) and District Inspectors of the Department of Water Supply, Gas and Electricity. This appears to be a rather minor source of economy, and organizationally impossible at present.

(b) *Department of Health* — Assumption by inspectors of the Retail Division of the regulation of restaurants (and possibly of retail fish stores) serving shellfish, which is now done by inspectors of the Shellfish Division.

(2) Consolidation of work of inspectors from different Departments.

Examples of this are:

(a) *Department of Health* — Transfer to the Division of Housing of the Department of Housing and Buildings the handling of complaints from tenants about insufficient heat. Transfer from the Department of Hospitals, Division of Institutional Inspection, to the Hospitals Division of the Department of Health the regulation of private proprietary hospitals and homes.

(b) *Department of Sanitation*—Transfer to District Health Inspectors (proposed for the Department of Health) the street patrol work

for the detection of violations of the Sanitary Code now done by Sanitation Inspectors.

(c) *Fire Department*—Transfer to Department of Housing and Buildings original inspection of fuel-oil-burning heating apparatus. Transfer to Department of Housing and Buildings, Division of Housing, maintenance inspections for minor violations of Fire Code in multiple dwellings, now the responsibility of the Company Building Inspectors. Transfer to Department of Housing and Buildings, Division of Buildings, the joint responsibility for, and jurisdiction over, plan examination for fire safety of new construction.

### The Basis of Figures Submitted on the Cost of Regulation

In developing cost figures on license issuance and inspection, a conservative approach was taken. Since the objective was to justify recommended increases in license and permit fees, the unit costs, as calculated, contain for the most part only the out-of-pocket expense involved in personal services allocated to the particular license, plus departmental administrative cost. In some cases, such as the Department of Licenses and Department of Health, a rental charge was also included because of the occupancy of buildings separate and apart from the Municipal Building. Heat, light, and power were not included as such. In all cases the cost of personal services, direct and indirect, was a very high percentage of the total cost.

Pension costs were not included in the calculations, and these now constitute a considerable addition to the cost of personal services, especially Fire and Police.\*

\*ED. NOTE: On this basis, inspectional costs in general, in the Worden & Risberg Report are thus understated to the extent of 10 per cent for clerical and general inspectional



## SECTION 2

## ACTION OF THE MAYOR'S COMMITTEE

(1) The Mayor's Committee takes the position that basically licenses and inspections are designed for public protection and control. However, in most instances, there is a specific benefit to the licensee—such as permits to do business—and for that reason it is legitimate to ask him to bear the cost of inspection and issuance. Fees should not be set so as to return a significant revenue over and above costs—with the qualification that where custom and trade practice have made a certain fee acceptable, it is not recommended to reduce such fees even if cost analysis shows an apparent spread of fee over cost, particularly in the case of amusements, where additional items such as police protection usually add costs not precisely allocatable.

(2) With respect to specific increases in fees proposed in the Worden and Risberg Report, we note that recommendations have recently been made to the City Council by the Bureau of the Budget\* calling for extensive revision, and we therefore merely transmit the recommendations of the consultants to the Bureau of the Budget for con-

(ED. NOTE cont. from p. 256.)

forces, and 20 percent for Fire and Police payrolls. In the Report, 60-percent of company building inspectors in the Fire Department were counted in company costs (100 percent would have meant an additional \$600,000). Also \$200,000, which the City is obligated to pay into funds of the Volunteer Firemen's Home and Volunteer Firemen's Association, was not included as costs by the consultants. Both of these items are considered in the costs by the Bureau of the Budget in estimating fees to be charged.

\* ED. NOTE: Fee increases commensurate with the cost of the services rendered have been effected in five departments as of July, 1952.

sideration in any further adjustments, in line with the principle set forth in paragraph 1 above. We recognize the attempt of the consultants to establish a relationship between costs and fees charged, but call attention to questions on cost determination as computed by the consultants. We find that the consultants' costs have generally been understated by not giving effect to pensions costs for those engaged in inspection and licensing work. This means that clerical and inspectional costs are understated. Moreover there is further question as to the validity of including only 70 percent of company building inspectors' costs in the Fire Department. Adjustments on these scores would justify proportionately higher fees in Bureau of Budget calculations.\*\* We also note the inclusion of fees for certain dumping privileges in the Department of Sanitation, in both present and possibly attainable revenues, and do not feel the consultants have justified this inclusion.

(3) We are aware that the contention has frequently been made in many quarters that great economies can result from the consolidation of licensing and inspectional activities. This problem breaks down into two fairly independent ones—that of *license issuance* and that of developing a *composite inspector* to combine various inspections into one visit. With respect to the

\*\*ED. NOTE: The rental value of the quarters occupied by departments other than Licenses and Health is also a major cost item. The July 1, 1952, bonus has further increased costs by approximately 9 percent for personal services.



former, we find that although certain minor consolidations can be made, extensive centralization of license issuance is not expedient for functional reasons, and that almost all of the present licensing agencies have sufficient volume to warrant mechanization and other significant economy moves without combinations with other departments or agencies. We thus advocate that all possible steps be taken now to achieve the important economies shown by the Report to be possible, before considering centralization, especially in view of the present limitations of the Department of Licenses as regards taking on additional work. With respect to consolidation of inspections, we endorse the idea of effecting this in the specific areas indicated by the consultants, but also note the consultants' cautions with respect to such consolidations. We recommend that the departments involved undertake discussions to arrive at satisfactory arrangements.

(4) With respect to paragraph 3 above, we call special attention to the need for adequate inspection of all hospital facilities of the City of New York, and recommend that this be centralized in one agency and that proper mandatory legislation be enacted. We note that the APHA Report on the Department of Health, along with that of Worden & Risberg, recommends that this be centered in the Department of Health, since the Department of Hospitals now operates its own hospitals while inspecting hospitals operated by others. Since, however, there is strong professional opinion that this should remain the responsibility of the Department of Hospitals, the Mayor's Committee does not at this time make a specific recommendation as to where it should be placed, beyond urging that

the problem of inspection and licensing of all hospitals in the City be given full and serious consideration by the Hospital Council, together with the Departments of Health and Hospitals.

(5) Also in connection with paragraph 3 above we do not favor, for reasons of public safety, the transfer of the entire licensing function out of the Police Department to the Department of Licenses—even though the consultants stipulate that the move should be made only after greatly strengthening the latter Department.

(6) We endorse in general the recommendations for improving operating effectiveness as given in the Report, noting the wide disparity that now exists among departments with respect to inspectional and issuance costs, and especially the low unit costs presently obtained in the Department of Health. These should be studied point by point by the departments involved, with special attention to recommended frequencies of inspection.

(7) Specifically with respect to the Department of Licenses, we urge that the whole license issuance procedure be examined for economies and improvement, with a responsible official, perhaps a Deputy Commissioner, in charge; and we recommend that the serious deficiencies in ordinary equipment, such as cash registers and typewriters, be corrected.

(8) With respect to the Department of Health, we note the estimated possibility of saving up to \$100,000 a year by the elimination of duplication of control of milk supply by City, County, and State authorities. We call for thorough exploration of this subject by the Commissioner of Health, in co-operation with State and Federal authorities.



(9) With respect to the Department of Markets, we call special attention to the conclusions of the consultants, based on work standards which they developed and on possible improvement in deployment of manpower, that the inspectional force in the Bureau of Weights and Measures can improve services and at the same time reduce the present manpower.

(10) With respect to Fire Department inspections, we wish to emphasize the importance we attach to building inspection as a phase of fire prevention—either by special company building inspectors or by members of the fire-fighting forces of the companies. Therefore, although Worden & Risberg have made a good case for disbanding the company building inspectors and centralizing inspection out of City-wide or Borough offices, we nevertheless adhere to our position as expressed in connection with action on the Fire Department studies (paragraph 40, Section 9, Chapter XVII), calling for inspection by company men on a rotating basis.

(11) With respect to the Police Department, we withhold endorsement, for reasons of public safety, of the consultants' recommendation that pistol and hack licenses be issued by mail, despite the estimate that costs could thereby be reduced to the extent of some \$147,000 annually.

(12) With respect to the Department of Housing and Buildings, we call special attention to the economies apparently possible through streamlining building permit procedure by means of

better supervision, better deployment of manpower, improvement of forms, etc.

(13) Also as regards this Department, in connection with old, substandard construction, we recognize that the long-range program of improving housing involves co-ordination of City, State, and Federal agencies, and the use of public and private capital. However, we find that the specific management problem of the Department of Housing in this matter is its so-called "hold-the-line" program designed to keep the problem from worsening. The "preventive-maintenance" portion of this program has completely bogged down, largely through lack of sufficient personnel. As a result, we find that the processing of citizens' complaints is a major part of the work load of the Division of Housing, with a backlog of a year's work rolled up. The consultants urge a changeover from regulation by complaint to positive control, mapping out a concentrated attack on the backlog. While this would call for additional costs estimated at \$100,000 annually for four years and \$36,000 annually thereafter, it is a program vital to the health and safety of citizens, and we lend it our full endorsement.\*

(14) Also in connection with the Department of Housing and Buildings, we disapprove of the consultants' recommendations that the City accept casualty-insurance company inspections in lieu of City inspections of elevators and boilers.

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\*ED. NOTE: Corrective action has been taken by the Board of Estimate since issuance of the Worden and Risberg Report.



## CHAPTER VIII

# Records Management

### EDITORIAL NOTE

The surveys by the National Records Management Council comprised three relatively independent studies: (1) a study of the Office of the City Register; (2) a pilot installation of modern records management in five selected City departments; and (3) creation of a modern City Records Center in the Rhinelander Building:

(1) **City Register**—The Report on this phase of the work, entitled “Streamlining and Safeguarding Property Recording,” covers a comprehensive study of the City Register’s Office, embracing procedure, equipment, personnel, and facilities. Section 1 of this chapter covers this Report in detail.

(2) **Pilot Installation in Five City Departments**—The consultants delivered three Reports on this subject: (a) “Summary Report on Record Keeping Control”; (b) a “Manual of Procedures and Operations” for installing the system; and (c) a promotional booklet, “VALVE-Controlled Record Keeping,” designed as a selling tool to promote the most effective method of record keeping.

(a) *The Summary Report on Record Keeping Control* is a factual Report to the Committee, describing the project and its results. It outlines exactly what was done in the five City departments chosen for the pilot installations and indicates the results of the special study undertaken in the Rhinelander Building (designated as (3) in the listing of the studies at the beginning of this statement). It is covered in Section 2.



(b) *The Manual of Procedures and Operations* outlines the procedures for insuring an effective continuing program throughout the City. It is a specific guide for supervision and direction of such a program. The term "VALVE-Control" used by the National Records Management Council is based on the five standards applied to make decisions regarding retention of records: Value; Activity (amount of reference); Legal requirements; Volume; and Efficiency. A digest of this manual is included in Section 2.

(c) *VALVE-Controlled Record Keeping* is a booklet in popular vein, telling the story of the program and results as outlined in the factual books already described. It contains "pie charts" on the percentage of records retained, transferred to storage, and destroyed in the departments studied, together with impressive "before-and-after" photographs of records storage in the Rhinelander Building. Because the substantive information is included in the other Reports, this booklet is not separately digested.

(3) **City Records Center**—The creation of the modern City Records Center in the Rhinelander Building was a "plus" that grew out of the work of the pilot studies. The consultants' preliminary findings showed the need for this undertaking. With the combined support of the Mayor's Committee, the Municipal Archives Committee, and the Bureau of the Budget, the Board of Estimate appropriated \$26,800 in February, 1951, to set up the City Records Center with specialized equipment, containers, and supplies.

The consultants prepared a detailed operating manual for the Records Center, submitted October 15, 1951. Since this was an extra assignment undertaken directly for the City, only three copies of the manual were made up, for use of those involved, and it is not digested in this chapter. Reported results of the record-center operation are given in the Summary Report by the consultants, and are thus included in Section 2.

It is to be noted that the work in the five departments constituted more than a "survey and report"—it was one of the selected projects of the Mayor's Committee calling for actual installation, with the departmental installations to furnish a pattern for a City-wide program. Departmental personnel were



used, under National Records Management Council direction, with the close co-operation of the Division of Analysis of the Bureau of the Budget, and the Mayor's Municipal Archives Committee, Miss Rebecca B. Rankin, Municipal Reference Librarian, Chairman. The latter group had been pursuing its own program on records disposal and central management for many years, and its work in this connection is recognized in the action of the Mayor's Committee as indicated in Section 3.

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## SECTION 1

# PROPERTY RECORDING

By

THE NATIONAL RECORDS MANAGEMENT COUNCIL

Real property instruments in the City Register's Office record property currently assessed at more than 18 billion. In addition, the Register records and files personal property transactions running into millions of dollars annually. Thus, efficiency of the office and the accessibility of its records have indirect monetary value to the people and government of the City of New

York. The importance of this, however, has not been considered in budget appropriations. Although the City Register has consistently returned fees in excess of expenditures, budgetary limitations permit only minimum standards in housing, equipment, and personnel. More important, however, is that these vital records have been, and are, exposed to destruction from fire, flood, theft, or enemy attack.

## CURRENT CONDITIONS

### Security of Vital Records

The risk of loss from fire, flood, enemy action, etc. has increased in direct proportion to the volume of records and the evaluation of property.

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Digest from "Streamlining and Safeguarding Property Recording," by The National Records Management Council, April 30, 1951.

Defense authorities have recommended, among other items, that all the records of the Register's Office be microfilmed and stored outside the primary target area. This Report recommends this process as a standard procedure, not only as a security measure but also as a means of conserving space and time.



## Housing

Except for the Bronx, the County offices of the City Register present a serious housing problem. Lack of space and insufficient floor loads are the major items, especially in those areas housing real property libers (official books of records).

**New York County**—The Register occupies the entire first and second floors and two rooms on the seventh floor in the Hall of Records, Manhattan. Floor loading capacity is adequate but space for storage is sufficient only for the next several years. A short-term improvement could be achieved by relocation of some departments after micro-filming of the Alphabetical Index, which will make more space.

**Kings County**—The City Register uses various rooms, vaults, and space in the Hall of Records, Brooklyn; the Kings County Supreme Court Building; and the Rhinelander Building, Manhattan. These scattered locations create difficulties for both the Register and the public. In instances stored records have been subjected to water damage.

Since some of these records are abstracted and the libers recorded on microfilm, the public seldom refers to them. Therefore, it seems desirable to destroy them outright rather than allow them to deteriorate in unsuitable storage space. Floor loading capacity of the Kings County Supreme Court Building is such that rearrangement to allow for further space expansion is impossible, and additional space will have to be obtained in five years.

**Queens County**—The Register's Office in Queens occupies an entire building three stories high in front and five in the rear. The floors of the three-story building are visibly sagging and should be inspected without delay to avoid a

possible disaster. The newer five-story section of the building does not have an elevator, causing undue waste of time and effort. The remoteness of the Register's Office from other County offices makes accessibility difficult for the public.

**Bronx County**—Located on the second floor of the Bronx County Court House, the Register's Office has no space problem at present. The quarters are the best of the four offices. Because of the lack of pressure for space, no effort has been made to achieve maximum space utilization.

## Equipment

**Real Property Records and Indices**—The basic unit of equipment, the roller shelf, was installed so that the early type of expensive leather book bindings would be protected. Since much cheaper bindings are used now, their protection is of much less value than the space required, and ordinary steel shelving would serve adequately.

The Register uses the best paper and chemicals for his photostating work, but the photostat equipment is in poor condition and, in Kings and Queens Counties, repair of recurring breakdowns is considered part of the work load of the operators. The Register's request for funds this year to replace four of these machines was cut in half by the Board of Estimate. Microfilm equipment is in good condition.

**Personal Property Records and Other Vital Papers**—The metal document file drawers in which these instruments are kept afford maximum space utilization, but location, lighting conditions, and upkeep range from excellent in the Bronx to poor in New York and Kings. These filed instruments are completely unprotected against any disaster. They have a definite legal retention period



and should not increase in amount beyond the capacity of current facilities.

**Personnel**

The Register's Office lacks sufficient personnel in all Counties to the extent that the absence of a clerk requires a wholesale reshuffling of staff to get through a day. Queens County, with its backlog in real property instruments, needs the most assistance. The problem involves Civil Service classification, salaries, morale, and aging employees, and is recommended as a subject for a special study.

**Procedure**

The Register is faced with the problem of inter-floor work flow in all Counties except the Bronx.

Checking and comparing in the recording process is an essential element

in the procedure, but the amount of this work varies from office to office. Since several offices have minimized the extent of checking because of limited personnel, it may be that other offices can do less without serious consequences.

Numbering is a required device in a Register's Office, but sometimes not necessary. For instance, New York County not only libers each real property instrument and also pages it, but in addition re-enters the serial number on each page of the instrument, a repetition which is time-consuming.

Present procedures for recording and satisfaction of real property vary from office to office but those for filing and satisfaction of personal property are similar in all offices.

**POSSIBLE PLANS**

Any solution to the problems facing the City Register must meet the following minimum requirements:

- (1) Provision for the security of vital records.
- (2) Long-term potential to eliminate operational crises and increased space demands.
- (3) Increasing efficiency of the Register's Office.
- (4) Cost no more and, if possible, less than present methods.
- (5) Applicable in all four offices.
- (6) Effectively serve the public as well as meet the management requirements of the Register's Office.

**The Land Title Registration Act\***

This Act, in effect since 1906, offers the possibility of solving most of the

problems in the Register's Office. However, since its acceptance has always been the subject of much controversy, no further examination of the problem is made herein.

**New Buildings**

New buildings or larger quarters are the first solution offered for meeting space needs but fail to meet most of the basic requirements because of the undue amount of time to obtain. Further, they are costly, make no provision for security, are not necessarily applicable in all Counties, and their ultimate satisfaction of space requirements is questionable.

**Revised Record Storage Technique**

The use of ordinary steel shelving is a possibility in New York and Bronx Counties only, because of load limited capacities in the other Register's Offices. It does not provide for the security of

\*ED. NOTE: This act has to do with the so-called Torrens System of registration. Under this system, the title of each registered property becomes as certain and clear as a government bond and may be bought and sold with no more formality or expense to the owners.



vital records and only partially improves efficiency and public service.

### Microfilm

Microfilm meets all minimum require-

ments for a solution of the space problem and satisfies the security problem as well, while at the same time being capable of daily use in the functions of the Register's Offices.

## RECOMMENDED SOLUTION—MICROFILM

The use of microfilm by the Register, both as a protective device and as a daily operational tool, will achieve a solution. The merits of this proposal must be considered in two phases: as security for existing vital records, and as a protective device and an operational tool for the future.

### Phase I—Security

Microfilming is not necessary for every record presently in the Register's care. Inventory and appraisal of all records in the four offices indicate that many can be destroyed. A list has been turned over to the Register so that he may obtain destruction authority under provisions of Section B40-13.0 of the Administrative Code.

Further, analysis reveals a number of records that can be secured by means other than microfilming. The records and methods are:

**Remove to Vital Records Center**—The following records should be transferred to Vital Records Center: Index Cards, Grantor; Index Cards, WPA Project; Reindexing Alphabetical Index; Printed Alphabetical Index; Index, Combined Alphabetical; Policy Correspondence; Abstracts, Regular and WPA; Employees Trust Bonds; Folio Register; Fee Slips; Record of Searches; Satisfaction Certificates (copy); Satisfaction, Real; Instruments; Torrens Records, Original Owners Certificates; Maps, Land, Location, and Tax, Complete Set; Delivery Books, last three years; City Record (in Manhattan).

**No Need to Secure**—There is no need to secure the following: Tickler Index; Daily Employees Time Records; Liber and Page Control Sheets; Routine Correspondence; Alphabetical Index, Personal; Block Index, Personal; Street Index, Personal; Mortgage Tax Canceled Checks; Mortgage Tax Bank Statements through 1950.

**Microfilm Work to Date**—To date the Register has the following records of Kings and Queens Counties on film:

1. *Kings*: conveyance libers Nos. 1-3,700, Years 1670-1913; mortgage libers Nos. 1-2, 557, Years 1755-1894; satisfaction libers Nos. 1-1,871, Years 1830-1950.

2. *Queens*: conveyance libers Nos. 52-335, Years 1839-1870.

In addition, the following will be microfilmed: Farm Histories; Filed Maps; Lot and Block Index; Satisfaction Libers; Tract Reports; Loan Commissioner's Records; Conveyance Libers Alphabetical Index, Real; Block Index, Real; Map Index; Mortgage Libers; Personal Property Instruments; Notary and Commission of Deeds Signatures; Mortgage Tax Serial Number Books; Mortgage Tax Monthly Statements; Mortgage Tax, Affidavits, Statements and Bonds; Mortgage Tax, Dispute Case Files.

Civilian Defense will, of course, pick up microfilming of libers for security purposes at the point at which the Register's activity ceases, and the negative copy should be forwarded eventu-



ally to the Vital Records Center as the security document.

## Phase II—Daily Operations

Microfilming of existing vital records by the Commissioner of Civilian Defense and the microfilming of incoming instruments must commence simultaneously. Certain incoming records should be secured by other means when the small quantity and infrequency of filing would make microfilming uneconomical. Coverage for each category follows:

**Disposition of Records**—The following records need not be secured: Alphabetical Index, Personal; Conditioning Bill of Sale Index; Employees Daily Time Records; Liber and Page Control Sheets; Mortgage Tax Ledger; Mortgage Tax Canceled Checks; Street Index, Personal; Routine Correspondence; Tickler Index.

The following records should be forwarded periodically to the Vital Records Center at the earliest practical date considering the type of record: Copy of the City Record; Copy of Mortgage Tax Monthly Bank Reconciliations; Copy of Mortgage Tax Dispute Case File; Copy of Mortgage Tax Serial Number Books; Copy of Mortgage Tax Monthly Statements commencing January 1, 1952; Copy of Mortgage Tax Affidavits, Statements and Bonds; Delivery Books; Fee Slips; Maps, Land, Tax, Location; Policy Correspondence; Records of Searches; Satisfaction Certificates; Satisfaction, Real.

The following should be photostated and forwarded to the Vital Records Center: Bail Bonds; Condemnations; Court Orders; Factor's Liens; Federal Tax Liens; Field Maps; Negatives of miscellaneous instruments.

The following should be microfilmed: Alphabetical Index, Real; Block Index,

Real; Conveyance Libers; Mortgage Libers; Personal Property Instruments; Notary and Commission of Deeds Signatures; Satisfaction Libers.

The method for handling abstracts should be a combination of microfilming and storage. Current Map Index Cards should be prepared in duplicate and one copy forwarded to the Vital Records Center. Torrens Records are triplicated in the Register's Office. The Original Owner's Certificate should be sent to the Vital Records Center. Inquiries can be satisfied from the Entry Book, Block Index, and Tickler. Additional actions on current certificates should be entered in the retained records and the Original Owner's Certificate temporarily recalled for subsequent entry. New Original Certificates should be sent to the Vital Records Center after recording.

**Procedure**—When the Register starts to microfilm incoming instruments, a new procedure is essential to relocate work elements for allowing line processing. Flow procedure for the recording of Conveyances and Mortgages and the Satisfaction of Real Property Mortgages in all four offices follows:

(1) *Recording of Conveyances and Mortgages.* Serial numbering of instruments has been selected as the sole means of control to eliminate unnecessary duplication. A series of Conveyance Mortgage numbers should begin anew each calendar or fiscal year. An example of a serial number is, 1952-C-5550-4. The Block Index entry should be made in its entirety since the control number has already been assigned.

All offices should prepare Abstracts (normally three copies). Sufficient additional copies should be made for the additional names of Grantors, Grantees, Mortgagors or Mortgagees, and for each set of the Alphabetical Index, which makes possible imme-



diate security and allows for a microfilm Alphabetical Index.

A Lot-Block Index exists in New York County only and should be adopted in all other Counties. After Abstracts have been prepared and proofed, the original Abstract should go to the Vital Records Center daily.

The copies of the original Abstracts by County and by block are held at the Vital Records Center (where microfilming is accomplished) until enough have accumulated for a particular County within a category (i.e., Mortgages or Conveyances) to fill a microfilm reel. The Register will have to assign a maximum of five clerks to the Vital Records Center for this and other work of a technical nature.

In the Alphabetical Index Department, separate sets of Abstracts should be maintained for Grantors, Grantees, Mortgagors, Mortgagees, and Miscellaneous, arranged alphabetically to the second letter.

The flow of Miscellaneous instruments is identical with that of other instruments except for reproduction. Miscellaneous instruments, recorded infrequently, are not suited to the microfilm process, although the need for security still exists. They should continue to be photostated and a positive copy should be made. The positive should be retained in the Register's Office and the negative sent to the Vital Records Center. Periodically, the negatives in the Vital Records Center should be microfilmed and positive copies should replace the originals in the offices, at which time both the positive and negative photostats should be destroyed. Miscellaneous originals should receive a separate set of control numbers in the same manner as other originals.

(2) *Satisfaction of Real Property Mortgages.* Legal requirements, both State and City, make necessary that liber and page or serial number of Satisfactions shall be noted on the record of the mortgage and that Satisfactions be entered in the Block Index. Both recording devices are

used as official records, but this is unnecessary duplication. Since one notice of record should suffice, and since the Block Index lends itself to continued use in conjunction with microfilming, *it is recommended that* action be taken to amend those portions of the laws requiring marginal entries of Satisfactions and Assignments. The procedure outlined assumes that this change will be made as the only practicable approach to the necessity for security. Specifically:

(a) Satisfactions should have a separate set of serial numbers.

(b) After Block entries are checked in all Counties, except New York, the instrument should proceed to Copy Making.

(c) In the Vital Records Center, the Register's personnel should maintain a Satisfaction Block Index for each County. This index will be the security supplement to the microfilmed Block Index, to be used only if a disaster should occur.

(3) *Security for Personal Property Papers.* Present procedure for accepting Personal Property instruments will remain unchanged except that for security the instruments should be microfilmed. Conditional Bills of Sale and Chattel Mortgages should be microfilmed as a unit in series. Personal Property Satisfactions should be microfilmed in a separate series. Present indices should be maintained as usual and should not be secured. Special procedures apply in the case of disaster. Miscellaneous papers do not lend themselves to microfilming but photostating is essential to security.

(4) *Security for Mortgage Tax Records.* Mortgage Tax Records necessary to reconstruct operations in the event of disaster should be either photostated or carbon copied (depending upon which means is most suitable in each instance) and the original should remain in the office.

(5) *Notary and Commission of Deeds Signatures.* These records, by



their very nature, should be micro-filmed once a year for security.

(6) *Method of Determining Fees.* The procedures recommended herein involve some changes in the law. Since this is so, this would be an ideal time to modernize the setting of fees for the recording of Real Property instruments. The present folio method is a hangover from the time when recording was manual. No two individuals can expect to folio the same instrument the same way, without actually counting the words. Even on the present basis of estimating, the operation is time-consuming. It is recommended that a standard fee be determined for an instrument of a specific number of pages or less, and that a standard additional fee per page over the basic charge be set.

(7) *Microfilm Copies.* Negatives only should be kept of records which are not used in frequent reference. Others such as Alphabetical Index, Mortgage, and Conveyance Libers should be produced in negatives for security and prints for use.

(8) *Retention of Present Libers and Indices.* When the Register has commenced operation under the proposed procedure, there will be no need to retain the libers and the Alphabetical Index in offices. These should be destroyed by the Register by authority granted in Section 1052-19.0 of the Administrative Code. The Register may assure himself of the efficacy of the new procedure before taking action to destroy by transferring libers and the Alphabetical Index Books to the New York City Records Center (to be held for a period of three years before destruction), providing laws requiring marginal entries on mortgage recordings are repealed. No such entries should be made while the libers rest in the New York City Records Center.

(9) *Certified Copies.* The use of microfilm as an operation tool in the Register's Office will require a change from the current method of making copies of instruments on file with the

Register. Enlargers, mounted on the photostat machine as a permanent attachment, will be used when required. These will require replacement of current photostat machines by those structurally equipped to hold the enlarger. Three continuous recorders and one manual recorder for the Bronx where dark-room facilities are available are therefore required.

These will allow production of a 10- or 11-to-1 enlargement copy only slightly smaller than the original. Four new machines will be sufficient to meet the public demands for photostating real property instruments and certified copies.

### **Validation of the Microfilm Process**

The use of microfilm for space conservation is not new to the Register. Microfilming for this purpose began in 1945 but its use was protested because of mechanical deficiencies. In 1949 the New York State Title Association at Atlantic City adopted a resolution setting forth its objections and recommending that a full study of microfilming be made. Further study was recommended of the facilities and space for recording in all offices throughout New York State in order to obtain space to permit proper preservation of the records and their accessibility to those engaged in the preparation or examination of title evidence.

The present Report is the result of full study of space, facilities, and the effect of microfilming and discloses that the complaints arose from the work conditions rather than the medium itself. All such conditions are correctible by use of modern film readers, projectors, proper furniture, positive copies, and sufficient qualified personnel. Two operations were the subject of field investigations in order to arrive at sound conclusions: time study of the



use of libers versus microfilm and daily liber reference rate.

The first study showed that it takes 17 percent more time to search instruments on film than in libers, but that this time differential might be largely eliminated by microfilm of hand written and typed material read from negative prints. Even disallowing this opinion, the 17 percent differential stands against the statement of the 200 to 300 percent increase in time and cost.

The second study (daily liber reference rate) showed that the Register does not maintain statistics on the reference rate by the public. In order to assure the availability of sufficient microfilm readers, a count was taken on an hourly basis for one week in each office, and as a result the following number of readers was recommended: New York, 16; Bronx, 24; Queens, 38; Kings, 43. In addition, one reader should be available at the Alphabetical Index location in each County and one machine should be on hand at the Vital Records Center.

### Cost Analysis

The basing point used in this study for cost of production figures is actual liber production in 1950. In that year, 1,077 seven-hundred-page libers and 208 five-hundred-and-fifty-page libers were photostated at a cost of \$130.00 for a seven-hundred-page liber and \$102.14 for a five-hundred-and-fifty-page liber, or a total of \$161,253.

This included material and labor. The same number of libers *produced on microfilm with two additional prints of the negative* cost \$17,230, or a unit cost of \$7.66. Material and labor cost for all

other documents microfilmed or photostated comes to \$19,537.

The annual saving accruing from the change to microfilming is approximated at \$124,485. If personnel saving is considered, an additional annual saving of \$37,100 might be realized, but this could be very well applied to the present shortage of personnel in the department. The rental value of space saved was estimated at \$128,724, although such saving is not creditable to the Office of the Register, since all rental costs are chargeable to the Bureau of Real Estate. However, the space required by the new procedure is sufficient to care for a 100-year expansion of records and double the number of readers presently visualized as required. The operation should be a line process so that plans for space utilization could eliminate cross flow.

Transition to the new system will require certain one-time investments that must be taken into consideration: equipment purchases total \$103,083; positive prints of each negative reel for the years 1654-1919 and two prints of each negative reel from the year 1920 to the date of changeover must be obtained and will cost \$134,520. Some present equipment may be salvaged and the value of this is estimated at \$2,038.

An annual cost comparison of the proposed system as compared with the present system reflects a gross saving after the first year of operation of \$290,310 per annum. The first year of operation, which would bear the cost of one-time investment and other changeover costs, should show a net saving of \$54,745.\*

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\*ED. NOTE: The above savings assumed that Civilian Defense would underwrite the cost of microfilming present records, estimated at \$319,000.



## SECTION 2

## PILOT INSTALLATIONS

BY

THE NATIONAL RECORDS MANAGEMENT COUNCIL

Under the auspices of the Mayor's Committee on Management Survey, the National Records Management Council has worked with five representative City agencies to install a system of controlled record keeping—Department of Purchase, Department of Public Works, Department of Water Supply, Gas and Electricity, Municipal Civil Service Commission, and the Borough President's Office in Manhattan.

With the installation of this record-keeping control, New York is the first city in the United States to install scientific controls of record keeping within specific offices. To date, the pilot installation offers the following stimulating examples of real accomplishment:

(1) A new type of low-cost City Records Center.

(2) A stack of records nearly six miles high being sold as waste paper.

(3) A stack of records nearly three miles high transferred to the new City Records Center.

The net dollar return to the City as a result of these pilot installations now stands at \$203,613 for the first year, plus an estimated \$100,000 savings for each year thereafter.

**Definition of Controlled Record Keeping**

Controlled record keeping is a scientific three-phase system for managing the ever-increasing accumulation of records. It weeds out unnecessary records and establishes a systematic, continuing flow into a low-cost records center and finally to the waste paper dealer. It utilizes a new type of records center to provide low-cost protection and instant reference service.

**Procedure**

Following an appropriation by the Board of Estimate in 1951, a City Records Center was set up. Within 60 days, two primary areas were being attacked: the records maintained in the pilot departments and the central record storage already under way in the Rhineland Building. The new Center provides low-cost storage space, specialized storage equipment, and flexible layout which makes possible over four times as much record storage as before.

While establishing the Center, two phases of records controls (systematic disposal and transfer of agency records) were applied to the pilot departments and accomplished in four steps:

(1) *A physical inventory of the records.* The quantity, organizational and physical location, and housing equipment for each of 3,548 types of records were noted.

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Digest from "Summary Report on Record Keeping Control," and "Manual of Procedures and Operations Valve-Controlled Record Keeping," January 16, 1952, by the National Records Management Council.



(2) *Appraisal of each record group.* Legal requirements, retention of comparable records by other organizations as noted in Council files, sampling of reference rates to records, etc., were used to determine the disposition of each type of record. How long a record need be retained and how long it would be retained in the office as against the length of time to be retained in low-cost storage were other deciding factors.

(3) *Negotiation of decisions on record-keeping policy.* The Corporation Counsel, Municipal Archives Committee, and finally the Board of Estimate, as well as top management of the departments involved, contributed to 10,644 separate clearances obtained (or an average of three individual decisions for each record) to determine those records to be retained.

(4) *Follow-through on records disposal and records transfer.* The disposal by sale of waste paper and transfer of records to the Center can be directly translated into dollars and cents savings to the agency for space and equipment released in addition to the sale of waste paper.

### **Timetable for Installation**

The four steps just enumerated set the pattern for the pilot installation. In January, 1951, the Council staff began inventory and appraisal of the Department of Purchase records. One City Archives employee was trained to assist in the inventory of those Purchase records in the Rhinelander Building. In March the staff began inventory of Municipal Civil Service Commission records. In April it began inventory of Department of Water Supply, Gas, and Electricity records. In May it began inventory of records in the Department of Public Works and of records stored by ten other (not-pilot) departments in the Rhinelander Building. By the middle of May, the completed City Records Center was able to accommodate the

Department of Purchase records released by its new records schedule. All pilot schedules were completed and cleared before June 30, 1951.

### **Benefits of Pilot Installations\***

Savings of \$203,613 are estimated for the first year plus a \$100,000 saving per each year thereafter. (The first year's estimate gives effect to the \$26,800 cost of establishing the Records Center.) The schedules resulted in disposal of 73 percent of the records: 47 percent being sold as waste paper, 26 percent being transferred to the Records Center. This released space valued at \$65,512 and equipment valued at \$127,138.

In addition, strong technical improvements are evident in the management of the City's records. For the first time there is within the pilot departments:

(1) Complete inventory and appraisal of each type of record.

(2) Adequate index for quick location of records.

(3) Instant reference service to keep records close to the using office at below-office costs.

(4) Systematic procedure for managing records on a continuing basis and to meet changing needs.

(5) Records protection against fire, water, rodents, and general misuse.

(6) Records security to meet legal and administrative requirements.

### **Possible City-Wide Savings**

Benefits achieved in the five pilot departments (5 percent of all personnel and dollar budget) can be magnified to a total of over \$4,300,000 for the first year after installation, based on a City-wide program to locate, protect, and dispose of records on a continuing basis. (This includes an estimated \$450,000 for value of waste paper.)

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\*ED. NOTE: These dollar figures are not accepted by the Mayor's Committee as adequately documented.



The completion of the pilot installations on July 15, 1951, required only the following further actions:

(1) Appointment of responsible officials to control records disposal and to transfer or destroy records.

(2) Obtaining of competent and sufficient personnel (and adoption of proper method to maintain basic inventories and appraisals of City records) from present City employees, recruitment, or by contract under control of a trained staff.

### **Basis of the Project Conclusion\***

The three bases for setting the size of the records problem in the five agencies covered by the pilot installation, as against the total City-wide records problem, are:

(1) The number of employees in the five pilot departments is 8,407, or 4.8 percent of the City's total of 172,928, excluding the Transit System, New York City Housing Authority, Tunnel Authority, and employees on special schedule.

(2) The dollar budget for the five pilot departments comprises 3.4 percent of the total City budget for 1951-52.

(3) The five pilot departments' 1951 budget for office supplies, printed forms and stationery, plus printing and reproducing, and all raw material and tools for record making, is \$111,200, or 5.3 percent of the City's total of \$2,075,940.

The proposed improvements and estimated savings to the City government are based on sale of waste paper, the value of thousands of square feet of space, and the release of filing equipment which will defer purchase of new equipment for years to come.

The system of controlled record keeping would, besides dollar savings, improve record keeping and eliminate both fire and efficiency hazard of useless records (now equal to half a million file drawers cluttering up City offices, cellars and attics. An illustration of such hazard occurred in the state of Michigan. Within nine weeks after a similar study was completed, and before the state government could act, fire, fed by 25,000,000 pieces of worthless paper, gutted the State Office Building, with a loss of \$10,000,000, and destroyed most of the state's valuable records.

### **Co-operating Departments**

Special commendation is due the Mayor's Municipal Archives Committee, Rebecca B. Rankin, Chairman, for earlier implementation (1940-1950) of certain improvements and for its present co-operation in effecting the record keeping system. Practically every major department and official took some part in the completion of this work.

## **A CITY RECORDS CENTER**

The modern City Records Center in the Rhinelander Building grew out of the work of the pilot studies. With the combined support of the Mayor's Committee, the Municipal Archives Committee, and the Bureau of the Budget, the Board of Estimate appropriated \$23,800

in February, 1951, to set up the City Records Center with specialized equipment, containers, and supplies. The Center occupies only 7 percent of the space formerly required for storage in the Rhinelander Building. The gain to the City in rental value for this space is \$17,409 and an estimated \$10,000 from the sale of useless records as waste paper.

\*ED. NOTE: These dollar figures are not accepted by the Mayor's Committee as adequately documented.



## MANUAL OF PROCEDURES AND OPERATIONS

The purpose of this Manual is to set the standards and procedures for an effective City-wide program of records management by controlled record keeping.

### Objectives of Controlled Record Keeping

The system proposed is called "Valve" Control. Decisions on retention of records are based on applying the five standards of VALVE-Control to each type of record:

**Value:** the administrative and operational needs served by each record.

**Activity:** the amount of reference to the record.

**Legal Requirement:** Federal, State, or municipal regulations concerning the retention of each record.

**Volume:** the physical size of the record as measured in cubic feet.

**Efficiency:** weighing the dollar and cents cost of maintaining the record against the tangible benefits accruing from its maintenance.

Its purposes are:

(1) To eliminate unnecessary or obsolete accumulations of records and to prevent such accumulations in the future.

(2) To insure that instructions, forms, and procedures for maintenance of necessary records in office and storage are clear and complete.

(3) To provide definitive current information on each type of City record.

(4) To insure effective utilization of space and equipment for agency records in office and storage.

(5) To provide centralized City facilities designed for low-cost records storage, security of records, and instant reference service to those records.

For the purposes of this program, a record is defined as any paper, book, photograph, motion picture film, microfilm, sound recording, map, drawing, or other document, or any copy thereof that has been made, received, or retained by an agency as evidence of its activities, or because of the information contained therein.

### Installing Valve-Controlled Record Keeping

Effective record keeping depends upon both the administrative and technical soundness of the program. Measures still to be authorized are:

(1) A *City Ordinance* clearly defining the functions, objectives, and organizational location for a City-wide Record Keeping Control Program.

(2) The position of *City Records Control Officer* to extend and administer the continuing VALVE-Controls throughout the City.

(3) The positions of *Agency Records Control Officers* to install and administer the program in the individual agencies within the City-wide framework, utilizing the facilities of the central Records Center.

### Administrative Pattern for Program Extension

The administrative pattern for installing record keeping controls is as follows:

(1) *Designate a Records Control Office in Each Agency.* Records Control Offices should be established on an equal basis with other management services and, where possible, in the unit responsible for other management work. Not only do the objective review and appraisal of records require trained personnel, but those in management are most likely to know about the functions and paperwork of their agency. Furthermore,



record-keeping problems may point up more serious management problems, where solution might be aided by facts obtained in evaluating records.

(2) *Staff Each Records Control Office Adequately.* Personnel permanently assigned to the Records Control Office will depend upon the number and complexity of records. A minimum of one person should be designated, capable of installing, promoting, and co-ordinating the program, as well as analyzing records (usage, values, reference rates, etc.).

(3) *Select Liaison Personnel From Each Agency to Assist in Installation and Operation.* The record keeping control program cannot operate without the co-operation and assistance of the operating personnel in each agency. This is best effected by a liaison representative who can help to integrate effective records control with operating functions.

### **Technical Pattern for Program Extension**

Installation of record-keeping controls within each agency should include certain information obtained directly, and not through indirect means such as questionnaires, to insure accuracy.

(1) *Conduct Inventory of Agency Records.* Note for each type of record (on a Records Inventory Work Sheet) the quantity (in cubic feet), the equipment in which it is housed, and its organizational and physical location. As the inventory is taken, the Work Sheets should be arranged by office and alphabetically by records title within each office.

(2) *Appraise Each Type of Record.* To determine the disposition of each type of record, data may be found in specific legal requirements (Federal, State, and municipal regulations stating the length of time the record is to be retained) or in general legal requirements (Statute of Limitations). Equally significant is the information included on retention of comparable records by other organi-

zations. The information on both records inventory and appraisal is noted on the Records Appraisal and Clearance form.

(3) *Clear Records Schedule Within Agency.* Initial clearance is given by the official primarily concerned with the record, with subsequent clearances by top management and specialized staff.

(4) *Prepare Records Disposal List.* The Agency Records Control Officer prepares a list of all items scheduled for immediate disposal and submits it with the full records schedule for top clearances.

(5) *Obtain Final Records Schedule Clearances.* The agency records schedule, plus the disposal list, is forwarded to the City Records Control Officer, who reviews both items before obtaining final clearance from the Corporation Counsel, Municipal Archives Committee, and the Board of Estimate.

(6) *Act on the Approved Records Schedule.* The Agency Records Control Officer works with the Director of the Records Center on disposal and transfer of records to the Center. Red tags can be used for records disposal and green tags for records transfer, from which the number of storage containers required for repacking records can be estimated.

The Agency Records Control Officer supervises the repacking of records into the new type of storage boxes (introduced in connection with the pilot studies) and numbers them. Books or volumes may be stored on open shelves.

### **Continuing Record-Keeping Controls System**

(1) *Systematic Follow-up on Record Keeping.* At the beginning of each calendar year, the records control should be reviewed to determine what records are immediately eligible for transfer and disposal.

(2) *Control of Filing Equipment.* It is essential that the City Records



Control Officer work with the Director of the Records Center and the Agency Records Control Officer in reviewing requisitions for new filing equipment, or in reclaiming released equipment.

(3) *Reappraisal of Records.* Re-examination of new legal or administrative requirements may indicate that further changes are in order. Similarly, sampling of the reference rate on key records can point the way toward substantial reductions in record keeping.

(4) *Using Records Center Facilities.* The Records Center will provide three basic services to all City agencies; namely, low-cost storage, instant

reference service, and security of records.

(5) *Reporting Program Progress.* Each agency can "cost" its program annually with the following:

(a) Amount of office and storage space released through records transfer and disposal, and the value of such space.

(b) Amount and type of filing equipment (filing cabinets, transfer cases, shelving units, etc.) released for re-use through records disposal and transfer, and the value of this equipment.

(c) Number of tons of records sold as waste paper, and the receipts from such sale.

## RECOMMENDATIONS

(1) A law, the "City Records Management Ordinance of 1952," should be enacted to provide for the preservation, management, and disposal of records of the New York City government.

(2) The ordinance should establish a Records Control Office in the Bureau of the Budget, to develop and install plans and procedures for effective control of record keeping throughout the City government.

(3) A City Records Center should be established, under the supervision of the Mayor's Municipal Archives Committee, to preserve, service, screen, and protect all City records which must be preserved for a time or permanently, but need not be retained in office space and equipment.

(4) The proposed legislation should provide not only that (a) City records are the property of the City of New York; (b) such records be delivered by outgoing officials and employees to their successors; and (c) such records must not be otherwise unlawfully destroyed or removed; but it should also fix re-

sponsibility on a Records Control Office in the Bureau of the Budget for (d) establishing safeguards against removal or loss of City records and (e) initiating the recovery of City records which have been unlawfully removed.

(5) No records of the City government should be destroyed or otherwise disposed of without the approval of (a) the Records Control Office of the Bureau of the Budget, which Office shall consult with any interested stated officials including the Corporation Counsel, on legal records, (b) the Mayor's Municipal Archives Committee on historical records, and (c) the Board of Estimate.

(6) The Records Control Office, upon recommendation of the Mayor's Municipal Archives Committee, should be authorized to establish and operate such other Records Centers as may from time to time be authorized by appropriation.

(7) The Records Control Office should institute and maintain a training program in controlled record keeping, available to Records Control archivist personnel in all departments.



(8) The Records Management Ordinance should require the head of each City agency to designate an Agency Records Control Officer.

(9) Agency Records Control Officers should co-operate with the City Records Control Officer and submit such reports as the latter may require.

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## SECTION 3

# ACTION OF THE MAYOR'S COMMITTEE

### The City Register

(1) The Mayor's Committee agrees with the National Records Management Council that the registration of all documents in the Office of the City Register should be microfilmed at the earliest possible date. This will not only give completely accurate recording and the greatest possible security and speed, but will develop records which are easier to use, and at a great economy. Moreover, this program will greatly alleviate the space problem for the City Register.

(2) While we endorse the current program of microfilming records, we do not believe that the present state of mechanical development is sufficiently satisfactory to make it desirable at this time to abandon present procedures entirely in favor of microfilming. Technical developments reported to us indicate, however, that new techniques now emerging will make it possible, in the near future, to take final action to eliminate many steps of manual recording through a more complete reliance on mechanical and photographic methods.

(3) Accordingly, we recommend that all real estate transactions be microfilmed and that the film become the basic record as soon as technical developments make this possible.

(4) We urge that all records now in process of microfilming be processed also in at least one positive copy, so that there may be one copy, the negative, for security purposes, and a positive for more acceptable reference purposes.

(5) We recommend that the City reconsider and the Corporation Counsel take steps to secure an amendment of the law now requiring marginal entries of satisfactions and assignments so that the registration of mortgages and mortgage transactions may be more readily handled mechanically.

(6) We recommend that a standard minimum fee be determined for any recordation, with a sliding scale for documents exceeding the standard length. The present scale of fees is out of date.

(7) We endorse in general the several remaining recommendations contained in the report of the National Records Management Council on the work of the City Register's Office, and urge their implementation as modified by the suggestions of the Committee above.

### Records Management as a City-Wide Program

(8) The Mayor's Committee recognizes the prior work in this field carried on by the Municipal Archives Committee



under the Chairmanship of Miss Rebecca Rankin, and notes the participation of this group and the Analysis Division of the Bureau of the Budget in the pilot installations within the agencies, and in the development of the modern City Records Center, now functioning in the Rhinelander Building.

(9) The detailed audit of existing records in the five departments conducted by the National Records Management Council with the aid of City personnel, together with its development of retention schedules and necessary forms and procedures in records management, and the installation of the City Records Center facilities and systems, have brought immediate and substantial returns in the form of space and equipment savings and improved record handling. These results have demonstrated that great benefits will accrue from the application of the principles and procedures to all agencies, City-wide. However, we do not accept as properly documented the specific dollar savings given in the consultants' Report, especially the direct projection of the sample savings to all departments. Returns from salvage of waste paper,

while ample, cannot be expected to reach the per-ton figures mentioned, and the space savings will not be reflected budgetwise, as indicated.

(10) Since this work is well under way, carried forward by the Analysis Division, working in the agencies and in collaboration with the Municipal Archives Committee (adapting and improving upon National Records Management forms and procedures), and since the City Records Center is now in active operation, we do not find it necessary to make further specific recommendations beyond endorsing the work in progress. We do not consider it necessary to formalize the work to the extent of appointing full-time control officers in Civil Service positions as recommended by the National Records Management Council.

(11) The Committee calls for full cooperation by all commissioners and heads of departments in the appointment of records control officers, and in providing for their participation in the records management training work conducted by the Division of Analysis.

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## CHAPTER IX

# Office Mechanization

### EDITORIAL NOTE

On the assumption that where thousands of office employees are engaged in high-volume transactions there should be opportunities for substantial savings through increased office mechanization, the firm of Barrington Associates, Inc., was asked to make an exploratory survey of the subject late in 1950. This survey included, in addition to field investigation, a thorough review of pertinent recommendations resulting from studies of the Division of Analysis of the Bureau of the Budget, and recommendations previously made by representatives of manufacturers of major units of office machinery.

Barrington reported that a high degree of manual operation was to be found in functions which, in efficiently operated businesses, are usually extensively mechanized, and that in City departments which are mechanized a very high percentage of clerks use billing, bookkeeping, and other machines whose operations are only semi-mechanized when compared with highly automatic machines now available for such work.

In their Report, the engineers outlined ten types of operations which in their opinion warranted further examination. Study of one of these was made part of the Barrington general business-management survey of the Department of Health, the Report of which is digested in Chapter XV; another, having to do with the mechanization of inspection and permit functions of the Fire Department, was already under intensive study by the Division of Analysis, and no further study was deemed necessary.



With respect to the remainder, Barrington was asked to make three separate studies, as follows: (1) a survey of office mechanization in the Department of Finance, in connection with assessments, collection of taxes, and water charges, looking toward integration of related operations in the Borough Offices, the Tax Department, the Board of Assessors, the Office of the Comptroller, and the Department of Water Supply, Gas and Electricity; (2) a survey looking toward the integrated mechanized preparation of all City payrolls, excluding those of the Boards of Education and Transportation; and (3) a survey of office-mechanization opportunities in 11 selected City departments.

The engineers were instructed to take cognizance of work currently being done along these lines by some of the departments themselves, by the Division of Analysis, and by manufacturers.

Where a department had a specific program of mechanization under way, or was currently conducting a "pilot installation" in a district or unit, Barrington was to review the type and make of equipment in use or recommended, as well as the layout and procedures adopted, and comment upon their suitability to the work to be performed, and how the work as done or planned integrated with the larger City-wide program here contemplated. The studies were to be specific as to the type and make of equipment in the proposed installations, and probable costs and savings. However, they were not to include detailed revision of forms or detailed specifications as to installation—although enough data were to be provided to form an adequate basis for an installation program.

Three separate volumes were submitted on the above subjects, all of which are digested in this chapter.

The subject matter of these Reports is highly technical, and representatives of the departments involved expressed widely differing opinions on the recommended routines and equipment—especially with respect to the studies on the Department of Finance and on payrolls. It will be noted that in its action the Committee does not insist upon adoption of the disputed changes in highly complex operations, involving the handling of and



accounting for hundreds of millions of dollars, but does strongly urge immediate studies leading to trial installations, with full consideration to be given to technical advances made in recent years and in use elsewhere.

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## SECTION 1

# DEPARTMENT OF FINANCE

By

BARRINGTON ASSOCIATES, INC.

This study covers clerical functions involved in the assessment and collection of taxes for the City of New York. The objective was to locate major opportunities for the simplification and unification of such clerical procedures in the Department of Finance, the Borough Offices, and the Board of Assessors.

The Finance Department accounts for the entire receipts of the City currently amounting to more than \$1,336 million. The handling of the tax receipts requires accounting for them four times: (1) in preparing all tax bills for their collection; (2) collecting the taxes; (3) accounting for the receipt of all taxes; and (4) accounting for the disbursements of all monies.

The Finance Department also has custody of and must account for \$17.5 million of Court and Trust Funds.

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Digest from "Survey of Office Mechanization for the Department of Finance, City of New York," by Barrington Associates, Inc., October 15, 1951.

The Bureau of Receipts and Disbursements is responsible for the accounting of daily deposits made by 32 agencies and also for the bimonthly deposits of the various courts. Upon proper certification and clearance, warrants (checks) are issued for all City departmental expenditures covering all purchases and services rendered to the City. This bureau also must account for all disbursements.

In the Department of Finance all charges fall into two separate groups: (1) real estate taxes, water charges, sewer rents, and assessments; and (2) special taxes which include City sales, business, occupancy, compensating use, personal property, utility, and other taxes.

A survey of operations in 1951-52 showed 15 different taxes, some of which are collected through the five Borough Offices. Some are collected monthly, others quarterly, semiannually



or annually. Some idea of the size of the tax accounting and collecting task can be appreciated when it is realized that in the five Boroughs of the City of New York there are 830,000 parcels of real estate and that special taxes comprise another 1,600,000 items.

### **Personnel**

The total number of personnel as of June, 1951, (excluding relief and exemptions) was 1,311. In general, the Department of Finance employees are reasonably efficient and industrious. Certain groups of employees feel that they are underpaid, but this has not materially affected their work output. The morale of the supervisory groups is good.

The tendency to overstaff in some departments is, to a large degree, due to

the necessity of having adequate personnel to carry the peak load. Turnover rate of new employees is large, particularly among business machine operators. The pay offered City employees operating business machines is substantially below the level in private industry, and this has resulted in City departments in effect becoming training schools for industry.

It is interesting to note that 60 percent of the employees in the Department of Finance are over 40 years old; 25 percent are past 50 years; and 5½ percent are past 60 years. Should work loads increase, as is highly probable, with no improvement in procedures, the replacement of personnel might become a problem due to losses by retirement, natural causes, and attraction to industry.

## **PRESENT REAL ESTATE TAX PROCEDURES**

### **Real Estate Tax Assessor**

The assessment of all real estate taxes originates from a file of IBM tabulator cards prepared in the Tax Department. Each card carries a description of the property and the lot, block, sections, and volume numbers. From these cards two tabulator lists are prepared; one list is available to the public (called Counter Book), the other is used by the individual assessors (called Field Book).

The assessors appraise and enter in ink, in long hand, in the Field Book their appraisals against the lists of property assigned to them. On or about January 25, the assessor again copies the assessment in pen and ink into the Counter Book. The fact that these appraisals are copied by hand for about 830,000 parcels of property is evidence

of the size of the manual task and the great opportunities for human errors.

By June 20, the Tax Department must, by law, deliver to the City Council the first assessment rolls signed by the President of the Tax Commission. These assessment rolls consist of 8" x 16" bound copy books into which each parcel of property is entered, showing block and lot together with the assessed valuation. This copying is done manually by the Tax Department in pen and ink. Each page of this assessment roll must be totaled and verified with the tabulating machine total by volume and section.

Before the above delivery of the assessment roll to the City Council, the public is permitted a review of the assessed valuation placed on its property. Therefore, between February 1



and March 15 the property owners may file an application for a correction of the assessed valuation. Between March 16 and June 20, reassessments are made and the assessed valuations are corrected on the tabulation card, in the Field Book, and in the Counter Book. In the meantime, the assessment rolls are being prepared by hand. Before these books can be delivered to the City Council, the revised assessed valuations also must be entered in them by hand.

The City Council establishes the tax rate by June 25. Immediately after the tax rate is established, the Tax Department starts applying the tax rate to the assessed valuation of each individual parcel of property. This extension is performed manually, using multiplication tables.

The total annual tax to be collected on each parcel of property is divided into two equal amounts for semi-annual collection. The total tax extension must balance with the sum of all individual extensions by page, by volume, by section of City, by Borough, and for the entire City; even a half cent must be accounted for. This tax computation must be complete by July 1, so that the tax rolls may be delivered by July 1 to the City Treasurer, who transmits them to the separate Borough Tax Collectors. The aforementioned bound copybooks were the assessment rolls when they went to the City Council with only the assessed valuation in them; after the tax rate was applied and the tax to be collected was entered in these books they became the tax rolls. These bound books, or tax rolls, are the only source of information as to the tax to be collected.

Despite all checking, this procedure is conducive to repeated error, which must be corrected when found.

## **Borough Bookkeeping—Real Estate**

Another source of many errors lies in the typewriter-bookkeeping system in the Borough Offices, which is antiquated and expensive to operate. This, too, calls for subsequent corrections.

Each Borough Tax Collection Office has a separate ledger card for each parcel of real estate to be taxed within the Borough, with a capacity for a 10-year record of semi-annual tax postings and collections. The block and lot number are imprinted on each ledger card from a master file of addressograph machine plates.

From the tax rolls received from the Tax Assessor's Office, the typewriter-bookkeeper in the Borough Tax Collector's Office posts to a lot ledger card all the taxes to be collected for each parcel of real estate. At the same time, the typewriter-bookkeeper types the bill to be sent to the taxpayer for each block and lot number. The tax bills are then imprinted with the name and address of the taxpayer by an addressograph machine, after which they are mailed to the taxpayer.

Upon receipt of the tax payment, the typewriter-bookkeeper inserts the tax bill and the correct ledger card into a bookkeeping machine for posting the payment. This process is repeated almost 1,500,000 times each year and requires a force of over 200 typewriter-bookkeepers. This process is a laborious one and a source of errors.

## **Corporations and Utilities**

Corporation and utility real estate and special franchise taxes are handled in a unit called Real Estate of Utility Corporations, within the Tax Department.

Typed sheets showing the assessed valuation, tax rate, and tax extension



are used as the tax rolls in this unit, and this tax roll is called, "Real Estate, indicated by identification numbers and Special Franchises." The bookkeeping

procedures are similar to those for real estate, except that a registration number instead of a block and lot number identifies the property.

## PROPOSED REAL ESTATE TAX PROCEDURES

No attempt will be made herein to cover every detail involved in this procedure, but only to carry it only to the point of proving its practicability. At the time of installation many other details will be worked out.

The file of tabulator cards in the Assessor's Office, called a "plant," will be continued as at present. They show the name of the owner, the location of the property, section, volume, block, lot, building class, lot size, stories, and street number. The Field Book and Counter Book prepared from these tabular card will also be continued.

The new procedures would start at this point. A duplicate set of this plant of tabulating cards should be made each year. Each of these duplicate cards contains the section, volume, block, and lot number, and the assessment value, tax rate, and tax extension. In addition, this card will provide also for the "mark sensing" of the new assessed value by the assessors.

Mark sensing permits the clerk to designate his choice of figures by merely placing (with a pencil or pen) a small line on a designated spot on the duplicate tabulator card. Mark sense punching is the automatic punching of a tabulator card by means of marks made on the card with a special pencil or pen. This eliminates the ordinary key punching and verifying operations and also eliminates human errors of key punching.

On a multiplier the assessed value figure would be extended to show first-half, second-half, and total tax, including revision. The predetermined 1 percent discount for immediate payment of second-half taxes is computed and punched in the card at the same time for later use when needed.\*

A tabulation of the total tax to be collected is taken from these cards and this tabulation is the tax roll to be certified by the City Council. The certified tabulated tax roll and a carbon, together with the accompanying tabulating cards, are sent to the Central Office of the Tax Collector for collection. ("Central Office" as used here designates a tabulating production office which will be established to process as much of the tabulating work as possible on a centralized basis to permit better utilization and prevent much duplication of equipment in each of the Borough Offices.)

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\*ED. NOTE: This paragraph has been disputed on factual grounds by a member of the Mayor's Committee, for the following reasons: "There is actually no such thing as a 1 percent discount and there is no way of predetermining the amount of the discount. The present rate of discount is 2 percent per annum on the second half of the tax. The earliest a discount may be calculated is October 1, and every day thereafter it decreases; hence it is impossible to predetermine the amount of discount on any given tax." The consultants' technician in charge has replied that the 1 percent (representing one-half of the 2 percent per annum) is punched into the card. Thereafter, where the entire 1 percent discount is not applicable, it is separately calculated for the correct amount applicable and punched into the card by hand.



When the Real Estate Tax Master-Cards arrive at the Central Office with the tabulator-prepared tax roll, they have been punched and printed to show the section, volume, block, lot number, the assessed value, the amount of tax for each half year, and the predetermined discount for the payment of the second half-year taxes. They will not have the name and address printed on them. The Central Office will first sort them in the sequence of block and lot number by Boroughs.

A blank tabulating-card tax bill is prepared for all taxpayers in each of the Boroughs on a Type 9300 Addressograph machine. The latest type addressograph plate will be used. It has not only the name, address, section, volume, block, and lot number embossed upon it, but it also has holes punched in it for the same section, volume, block, and lot number. This plate also shall have the "Pivolok" tab to indicate properties which are in arrears or have been sold.

The tabulating-card tax bill prepared on the 9300 machine will have the name, address, and other data printed on it and tabulator holes for the section, volume, block, and lot number punched in it. This card tax bill must have printed on it and punched in it the assessed value and the tax to be collected for the first and second half. The information is reproduced on the card tax bill from the Master Card that came from the Assessor's Office.

Under this plan, some of the information now printed on the tax bill would have to be eliminated, or else printed on a separate folder to be mailed to the taxpayer with his bill. The Treasurer's Committee, which worked in liaison with the consultants, was of the opinion that much of the information now printed on the tax bill could be elimi-

nated, or else printed on a fly sheet mailed with the bill.

A Type 9100 Addressograph machine in the Central Office will be used for preparing a proof run of the addressograph plates.

The Borough Office will receive from the Central Office a tabulator-prepared tax roll, a set of Real Estate Tax Master-Cards and a set of tabulator-card tax bills and a proof list of these tax-bill cards. It can thus verify the set of Master Cards to the set of tax-bill cards with the tax roll.

### **Borough Office**

The Borough Collector's Office mails the tax-bill cards to the taxpayers. The tax-bill cards have printed on them explicit instructions to the taxpayer to return the bill with his remittance to the Collector's Office. Space is available on the face of the tax-bill card for mark sensing the interest or discounts.

Upon receipt of the taxpayer's bill card together with his check, the two items are verified by the Control Clerk.

The checks which are received and the associated tax bills are gathered into separate footings or bundles of the proper number according to tabulator folio capacity. Duplicate adding machine tapes are made for both the checks and the tax bills.

The tape totals are compared and the folio and cash book numbers are assigned to each footing and are also written on both tapes and on the top tax bill of each bundle. Copies of the adding machine tapes are to be kept for a comparison with the final cash journal run of taxpayer's bills on the tabulator.

The single-card taxpayer's bill and checks in bundles with associated adding machine tapes are forwarded to the cashier for receipting the bills and en-



dorsing the checks. The cashiers retain a copy of the tape for the bills and for the checks. One copy of the tape accompanies the checks when deposited in the bank.

The tax bills are then run through the IBM reproducing machine in sequence, at which time the cash book folio number is set into the machine to be punched into the tax-bill card. The reproducer reads the holes in the bill and reads the mark-sensed information on the face of the bill and transfer-punches the mark sensing of the interest or discount onto the duplicate card.

The tax-bill card is then ready to be mailed to the taxpayer as a receipt for the particular tax payment.

The new card is then processed on a tabulator to produce in duplicate a cash journal, by total for each footing, or folio. A summary card is made for each folio.

Original and duplicate folio tabulations are returned to the control clerks for comparison with the tape listing.

The summary cards are run on the tabulator to prepare a recap of folios for each cashier. Separate summary cards are produced for each cashier, by each type of tax.

The summary cards also are processed on a tabulator to produce a Summary Cash Deposit—one for each type of tax. From these summary cards a detailed Treasurer's Report is made, broken down into further detail.

### Facsimile Posting

An important feature of this proposed system is known as facsimile posting or transfer posting. By this process a line of tabulation or listing may be transferred directly to a ledger card, eliminating all manual sources of error in copying and providing much

greater speed, from the present rate of 350 items per *day* to 500 per *hour*.

The tabulator cards, reproduced from the returned tax bill, are sorted for each day's receipts by block, lot, class of tax, and year of tax. The cards are listed on a Model 403 Tabulator, in duplicate, with reverse side of the duplicate list impressed with a ditto carbon. This ditto-impressed duplicate is used as a master sheet to post each line of information on a facsimile posting machine at one key impulse to a ledger card for each block and lot number. The original is retained by the Collector's Office.

The line posted to the lot ledger card from the ditto master carries with it the lot and block number so that visual check can be made that posting of payment is on the correct lot and block, or parcel of property. As the posting entry is made, the master sheet is red check-marked with a dot as visual proof that posting entry has been made. This duplicate copy of listing with ditto carbon and red check marks, proving entry onto ledger card, is to be retained by the Borough Office.

When the Assessor's Office originally listed the master cards on the tax roll, the latter was prepared in duplicate with a ditto carbon impression on the reverse side of the duplicate, the Borough to use the duplicate to transfer-post the amount of tax to be collected onto each lot ledger card. As the transfer posting is done, each item on the duplicate copy is check-marked with a red dot as proof of entry, after which it is sent to the Comptroller.

The above procedure applies to payment of taxes by mail or by cash in person. Duplicate cards can be prepared from the master file for those taxpayers who pay cash in person and have lost their tax-card bill.



The lot ledger card is to be designed to accommodate posting of real estate tax, water frontage, sewer rent, and assessment for improvements, and all other notations as at present.

### **Cash Payments**

Where the taxpayer prefers to pay in cash, his bill is copied or reproduced.

An interest clerk calculates the interest or discount, enters the figures on the taxpayer's bill and mark senses and enters the figures on the duplicate, and gives the taxpayer a receipted bill. The duplicate card is processed in a reproducer to convert the mark sensing into holes in the same card. This duplicate

card then follows the previously described procedures.

### **The City Record**

There is a potential annual saving of some \$60,000 in connection with publishing the City Record. Annually, the City Record prints a copy of the Assessor's Counter Book, omitting the house size, the building classification, and the number of houses on the lot. At present, all of this work is type-set. A special listing of certain data in the cards in the Assessor's Department could be prepared easily in such a way that it could be reproduced in quantity by photo-offset.

## **WATER CHARGES, SEWER RENTS, AND ASSESSMENTS**

### **Water and Sewer Taxes**

Water charges currently are made on either a metered or fixed-frontage basis. Sewer taxes or sewer rentals are billed at one-third the meter charge or one-third the fixed-frontage charge. In either case, the sewer rent is included with the water bill.

Water taxes, based on meter readings, originate in the Water Commission Office in each Borough. The consumption figures are listed on a Burroughs Type 7200 bookkeeping machine on which two copies are made of the listings. A summary of listing sheets also is made. A copy of each of the lists is sent to the Borough Tax Collector where the meter bill is prepared and the charge for metered water is entered on the lot ledger card.

### **Proposed Plan—Meters**

It is recommended that an addressograph plate be prepared and main-

tained in the Central Office for each meter, with embossed name and address of the person paying the water bills, the section, volume, block, lot number, and the meter number. Holes would be punched in the plate for block and lot numbers and meter number.

For each meter and for each billing period a tabulating card and duplicate would be prepared in the Central Office on the Type 9300 Addressograph for 35,000 meters.

One of these cards is to be forwarded to the Borough Water Commission Office where the meter reader mark senses the present meter reading on the reverse side of the IBM tabulator card. A tabulating accounting machine (in the Borough Office) would subtract the previous meter reading from the present meter reading and then multiply the difference of these amounts by the applicable water charge rate to determine the amount to be collected from the tax-



payer. An additional one-third of the water bill would be charged for sewer rental.

In a reproducer, the accounting information would be punched in the water taxpayer's tabulating bill-card. Both cards are run through the bill-head attachment on the tabulating machine which prints the accounting information on the duplicate card. In the following period, the mark-sensed card with the previous meter reading is used to reproduce this previous reading on the two new cards for the succeeding months, which are to be made on the Type 9300 Addressograph.

The master meter cards are used to run a tabulation with ditto carbon on the reverse side for use in facsimile posting the meter consumption and the amount of billing to the meter ledger card.

When the payment card is received in the Borough Collector's Office, it is run on the tabulator with ditto carbon on the reverse side of the listing for use in facsimile posting of payments onto the lot ledger card.

### **Water Frontage Charge**

With respect to water charges which are made on a fixed-frontage basis, the Department of Water Supply, Gas and Electricity prepares a list of changes in frontage charges each month and sends the list to the Borough Collector's Office where the changes are recorded by hand on the "Water Frontage Roll of Charges."

It is recommended that the Central Office prepare and maintain a file of addressograph plates to contain the name, address, section, volume, block, and lot number of each person paying a

water bill on a fixed-frontage basis. This plate also shall have a removable embossed insert which shows the water and sewer charge.

The addressograph plate proper (not the insert) has holes punched in it for converting the information on the plate into tabulator holes in the tabulator card. This is done on the 9300 Addressograph machine. On this machine a bill card and a master card are to be prepared for use in the Borough Tax Collector's Office. The change list prepared by the Water Commission Office is to be used as a basis for the relatively few changes in the plate file in the Central Office.

In the Borough Office the transfer posting of original charges or for metered charges is to be made on the ledger sheet. Upon receipt of remittance, the procedures for transfer posting of the payments to the ledger sheets are to be the same as for real estate taxes. The sewer rent is to be billed with the water frontage bill and the water meter bill.

### **Assessments—Proposed Plan**

When lists of properties which are to be assessed for improvements are received at the Central Office, the addressograph machine plates used for the real estate tax are to be pulled and the assessment bills are to be prepared and sent to the Borough Collector's Office with the accompanying lists. In the Borough Office the amount of assessment is to be key punched in the master card.

The billing, collection, posting and accounting procedures from this point on are similar to those described for the real estate taxes.



## SPECIAL TAXES

### Sales and Business Tax

Although sales taxes are collected quarterly and business taxes are collected annually, the procedures are similar.

The present practice is to mail to each registered taxpayer, quarterly or annually, a tax-return form imprinted by an addressograph plate with the taxpayer's name, address, and registration number.

It is recommended that the practice of mailing tax returns be continued except that a new type of addressograph plate is to be used. This plate will have the name, address, Borough, code, store number, class of tax, and registration number embossed on it, and will have the tabulating holes punched in it so that two punched and printed IBM tabulating cards can be produced from this plate on a Type 9300 Addressograph machine.

The first IBM tab card is to be a payment card mailed to the taxpayer with the tax return, to be returned by him with his tax return for internal use in the Borough Collector's Office. This card has a provision for mark sensing the amount of the tax by the verifying clerk.

The second IBM tab card is to be used as a delinquent card in the Collector's Office, for later mailing to the taxpayer as a reminder.

Following receipt of the tax returns and remittance from the taxpayer, the tax-payment tabulating card is to be run on a tabulator to prepare a cash folio. The cards then run through a sorter for filing in sequence by registration number. The cards are then processed in a tabulator.

This listing would have a ditto impression on the reverse side with which to facsimile post on the ledger card the entries for registration number, date, period, cash book, and folio number, codes, Borough, store number, class of tax and amount of tax. This ledger card provides a permanent record of payment.

Successive matchings, at proper intervals, of returned tabulator cards with retained duplicate cards will make possible the sending, first, of delinquent notices, then, if necessary, subpoenas, and, finally, investigators' notices.

This proposed method of handling delinquent cards contemplates discarding over 95 percent of the delinquent cards, representing payments received. There are currently about 225,000 business taxpayers and about 650,000 sales taxpayers, representing a total of about 875,000 cards that would be prepared in duplicate, the majority of which would be discarded. However, the cost of the destroyed cards is negligible in comparison with the advantages gained.

### Accounting for Special Taxes

Upon receipt of the tax form and tax card with the remittance in the Borough Office, the amount of the check would be verified with the amount of the tax. The amount of tax would be mark sensed and written on the tabulation payment card (or, if mark sensing is not used, the amount of the tax could be written on the card forwarded for key punching). In either case the penalty, if any, would be marked on the tax return and the card.

In the Collector's Office, upon receipt of the check, the tax return, and the IBM payment card, checks are to be made into bundles or footings and an



adding machine tape is run in duplicate. The tabulator payment cards are similarly bundled and duplicate adding machine tapes are also attached. The tax returns are receipted.

The top tabulator card and the top tax return and tapes are noted with cash book and folio number.

The procedures from this point have been described in connection with the recommended plan of preparing the tax-payment tabulating card.

### **Compensating Use Tax**

Compensating use tax is a form of sales tax which applies to one-time sales of automobiles or machinery, applicable to every City resident, regardless of where the car or machinery was purchased.

Currently a clerical staff varying from 5 to 25 people search auto registrations to determine where automobiles of City residents were purchased and whether sales taxes were paid. It is recommended that each registration be microfilmed and that a tabulating card be prepared for subsequent matching with the sales tax registrations.

The accounting procedures for handling this tax are similar to those for the sales tax. However, the tax return and tabulating tax-card are mailed to the taxpayer. The tabulating tax-card is prepared on a typewriter instead of an addressograph machine and after it is returned the data would be key punched instead of using an addressograph plate.

### **Used-Car Dealers Tax**

The procedures for the collection and accounting of used-car dealers taxes are practically identical to those used for the sales tax. The only difference lies in the preparation and maintenance of used-car dealer file, using the

latest type of addressograph machines and plates.

### **Restaurant and Night Club Taxes**

A file of addressograph plates is to be maintained for restaurants and night clubs. From these plates the following would be imprinted or made on the 9300 Addressograph machine: (a) tax return form; (b) tabulating card tax return; and (c) delinquent tabulating card.

The tax return and the tab-card return would be mailed monthly. The internal processing of the tax return and the tab-card return would be the same as that used for sales and business tax returns.

### **Occupancy Tax**

It is recommended that a file of new type addressograph machine plates be prepared and maintained for each taxpayer paying occupancy taxes. Each taxpayer is assigned a serial number. Two file cards are to be prepared for each taxpayer from the addressograph machine plate, one of which is used for the alphabetic file, the other for the geographic file. The addressograph machine also would prepare annually the taxpayer's tabulator payment-card and the delinquent file card. The tabulator cards have provision for mark sensing the amount of tax and the number of premises.

Upon receipt of taxes the serial number is to be marked on all checks so that if the checks are returned, marked "without funds," the taxpayer's card may be readily identified. Following receipt of check and tax-bill card, the amount is mark sensed on the card after which it is processed in a reproducer to convert the mark sensing into holes. The card is then tabulated to prepare the



cash journal after which it is sorted by serial number to be matched against the delinquency file to determine those who are delinquent. The delinquency card is mailed to the taxpayer after a copy has been reproduced for the follow-up file.

### **Miscellaneous Office Accounting Procedures**

There are many procedures in the Finance Department needing coverage aside from the collection and accounting of taxes, such as registration of taxpayers; maintenance of addressograph files; maintenance of geographic and alphabetic address card files; maintenance of "out-of-business" files; maintenance of waiver files; bankruptcy and assignment assessments; and receivable control accounting.

With respect to business tax registration, it is recommended that a simpler and smaller form of certificate be designed which could be prepared on an Addressograph 9100 listing machine together with a copy of the listing. The certificate would be prepared immediately after application is made.

The prepared certificate and a copy of the listing are to be forwarded to the central addressing machine unit where an addressograph plate is to be made which would be used to prepare three tabulator file cards: one for the geographic file, one for the Comptroller, and one for the alphabetic file.

Changes, if any, are to be written by hand on the present change form and immediately forwarded to the addressing machine unit to prepare a new plate, three new file cards, a folder, and a label to paste over the address on the old ledger card. The applicant would retain the same registration number.

At periodic intervals the alphabetic file is to be compared on the IBM Col-

lator with the geographic file for inaccuracies, by means of alphabetic and geographic codes punched in the cards. (At present this work is done by hand.)

The regular filing job, under the proposed method, then becomes one of merely pulling old cards and inserting new ones. (At the present time all changes of address are made by hand.) It is recommended that rotary files be installed for these cards.

When notice of "going out of business" is received, the addressing machine plate would be hand pulled from the file and the date would be entered on it. The new "going out of business" file card is filed in the alphabetic file while the old card, together with the addressing machine plate and geographic card, are destroyed.

When the Type 9100 Addressograph machine is printing the "going out of business" file card, it also prints the affidavits and the follow-up forms which are used by the investigators. It also prints a listing which is used to pull the tabulator cards from the delinquency file and from the ledger file.

The addressograph machine plates would also be used to print any waivers or annual affidavits as required. The bankruptcy and assignment assessments, as received from the Comptroller's Office, are to be key punched on IBM tabulator cards. These cards are to be processed on the tabulator to furnish the debit to the B & A account. Payments received or advices from the Comptroller's Office are credits to the B & A account. From all the debit and credit file cards a final tabulation is prepared each month.

### **Receivable Control**

By processing the tabulator payment cards through a collator or by hand in



the mail room, those with tax arrears, or taxes determined but unpaid, or taxes paid short would be segregated. A run of these cards on the tabulator provides the accounts receivable statement. These cards also have the interest and penalties entered on them.

The duplicate delinquent file card has the interest and penalty entered on it by means of a duplicator after which the card is to be placed in the unpaid tax file. The taxpayer's tabulator payment-card, showing tax plus interest and penalty, could then be remailed to him.

Those taxpayers making erroneous payments will have a tabulating tax-bill card remailed to them.

The payment card with the tax, penalty, and interest marked on it is to be run on the tabulator to furnish a

listing of unpaid taxes and, by means of facsimile posting, entries are made on the taxpayer's ledger card and on the accounts receivable ledger card. The tabulator posting sheet with red check-mark dots on it, showing proof of entry, is forwarded to the Comptroller.

After the taxpayer's tabulator payment-card and remittance are received (including the interest and penalty) the card is placed in a credit file until it is periodically run on a tabulator to establish the credit entry to accounts receivable.

Past due accounts are to be transferred to the warrant accounts after which periodic runs are made on the tabulator to provide the debit entry to the warrant account and the credit entry to the nonwarrant accounts receivable.

## TREASURY DIVISION OF THE BUREAU OF RECEIPTS AND DISBURSEMENTS

### Banking Unit

Each day 32 different City agencies make bank deposits, and twice a month the various courts make deposits listing the various funds to be credited (each fund having a code number). Each agency or court reports the deposit to the Banking Unit on its own form, showing the details of the items deposited. Each agency or court draws a check against the deposit, or delivers the cash currency, or gives a certified bank receipt of deposit to the Banking Unit for which it receives a receipt as a Certificate of Deposit.

No attempt has been made to plan in detail the further mechanization of the work in this department as it is of minor importance compared with tax

collection, or when considered from the viewpoint of the clerical effort involved. Nevertheless, certain improvements suggest themselves as feasible and practical. For instance, when the Borough deposits taxpayers' checks in the depositing bank, it could use an IBM card form of receipt or check order on this bank instead of the present paper check or deposit slip. This IBM bank check or order is to be drawn to the order of the City Treasurer, the Sinking Fund, or the Trust Fund. The IBM card provides mark sensing for the code, date, amount, agency, and other items.

The depositing agency could list the tabulator deposit card by hand, by machine or by adding machine tape, and forward the cards and tape listing to the Banking Unit. This would eliminate the



key punching in duplicate and the bookkeeping listing work now being done in the Banking Unit.

### Disbursing Unit

At the present time any City department may originate a disbursement. The disbursement originates with a voucher which is first forwarded to the Comptroller's Office for registration after which it is sent to the Disbursing Unit of the Treasury Division of the Bureau of Receipts and Disbursements.

The work also includes notices of cancellation of warrants, recording encumbrances that hold up payments, recording hospital liens or garnishees on City employees, notices to contractors of liens filed, notices to Corporation Counsel transmitting bonds for approval, handling court orders to satisfy liens and the filing of affidavits. These duties occupy most of the time of the 18 clerks in the department.

A change of procedure is suggested which will eliminate the double punching of the tabulating card and the typewriter-bookkeeping machine listing and posting in the present system.

It is recommended that the original warrant issued by the Comptroller be in the form of an IBM card check and the factual information on this check or

warrant be converted into holes by key punching or mark sensing, preferably the latter. A duplicate tabulating card is to be prepared for internal operations in the Office of the Comptroller and a triplicate card made for use in the Finance Department. The triplicate copy of the tabulating card is to be used to prepare all listings, posting schedules, or ledger entries as required in the Finance Department.

The warrant cards or checks are to be bundled and listed by issuers on an adding machine tape against which the tabulating machine totals could be checked. The duplicate copy of the tabulator listing impressed with ditto carbon is used to make facsimile postings on the ledger cards for each bank account.

Each day the various bank balances are adjusted to meet minimum requirements by having the cashier draw an IBM card check on one fund or bank for deposit in another bank. This adjustment would be made each morning after the tabulation for the previous day's receipts and disbursements had been processed.

It is recommended that this work be done in the Central Office rather than maintaining a separate tabulator unit in the Disbursing Unit where it would be used only to partial capacity.

## EQUIPMENT

Remington Rand equipment is currently being used in the Department of Finance. The ledger cards and the typewriter-bookkeeping machines have been in use about 25 years. The tabulating equipment was installed a few years ago.\*

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\*ED. NOTE: Tabulating equipment was first installed in 1926 and 1927, in all the Boroughs.

As the possible solution to the Tax Department problem was developed, it appeared that "mark sensing" and "facsimile posting" would be important elements in the proposed systems and procedures. (The essential features of these techniques have already been indicated.)

These two developments are particularly applicable to the Tax Department's



operations and it is for this reason that IBM equipment is recommended. The International Business Machines Corporation is the only manufacturer of equipment having these features.

In the proposed systems the Type 9100 and 9300 Addressographs are particularly advantageous when used in connection with tabulating card procedures.

Computations were furnished to the Department showing the number of addressograph plates to be processed and the number of tabulation cards which will be processed on each of the different types of machines in connection with all of the recommendations included in this Report.

The specific design and layout of the tabulating cards, ledger sheets, tabulating sheets, and accounting forms are considered beyond the scope of this Report, but Barrington Associates is convinced of the feasibility and practicability of the proposed plans. While the estimates are approximate, the final variations, if any, will be of relatively little consequence.

Economies have been effected by preparing the tabulator cards and tax bills

in the Central Office instead of having a full installation of equipment in each of the Borough Offices. Further economies are effected by combining the Borough of Manhattan operations with those of the Central Office.

With respect to addressing equipment, the Department of Finance now possesses 22 Graphotypes, 10 of which would be used in connection with the plan proposed. In addition, two Automatic Graphotype machines are called for. Such a machine does, with only one operator, the work that more than five operators can do at present. It operates from a teletype tape prepared on a special typewriter as the names and addresses are originally listed.

In the Assessor's Office (Tax Department) there is at present certain IBM equipment. No attempt has been made in this Report to use this equipment, although it is logical to conclude that this equipment should be merged with the Central Office of the Finance Department and that all work now done in the Tax Department to prepare the Counter Book, the Field Book, and the City Record Copy be done in the Central Office.

## SAVINGS\*

The system outlined in this Report requires 407 fewer employees to operate than the present system.

In addition, there are other substantial savings to be made, as for example, in the design of office and accounting forms, many of which will need to be designed for installation of the proposed system. In Real Estate Taxes, for example, 33 forms were collected in this

survey; in Receipts and Disbursements, 31 were collected. The proposed system will greatly reduce the number of forms needed.

There are two ways of accomplishing these savings: first, by reorganizing the procedure; and second, by redesigning the forms. The savings will result from reduction of personnel and lower printing costs.

The present annual payroll of the Finance Department is \$4,132,138 for

\*ED. NOTE: This calculation of savings is not accepted literally by the Mayor's Committee.



1,377 employees. The approximate salary total of the 407 employees not needed amounts to \$1,221,000. This saving can be accomplished by shifting and promoting most of the experienced personnel to better jobs and eliminating 166 provisional employees and 64 relief workers, plus those who are eliminated through death, pension, retirement, and resignations. The shrinkage in forces due to age alone will be 25 percent in a few years, if no new workers are added. Thus no help need be laid off.

IBM machine annual rentals of equipment would amount to \$130,380 as compared with \$127,052 now paid out in rentals. Earlier in this Report, annual savings of \$60,000 were indicated as a result of using a photo-lithographic method of printing the City Record. There would thus actually be a net an-

nual saving of \$56,672. Incidental savings on repairs for the typewriter-bookkeeping machines also will be considerable.

At the present time, there are 208 Remington-Rand typewriter-bookkeeping machines owned and operated by the City in Borough and Central Offices. About 20 new machines are now purchased each year to replace worn out machines. Each machine costs about \$1,600 and the totalizers used on the machines cost another \$580. The present total annual purchase or cost is \$43,630.

The net effect of the foregoing is a total potential difference, after buying the new equipment, of \$1,123,000 in the first year of full operation after complete installation; thereafter a difference of \$1,321,000 per annum as compared with present costs.

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## SECTION 2

# PAYROLLS

By

BARRINGTON ASSOCIATES, INC.

The greater part of New York City's payroll operations are centralized in the Office of the Comptroller, where the Central Payroll Division processes semi-monthly, monthly, and weekly payrolls for 82 City agencies. The Central Payroll Division also prepares the semi-monthly and monthly payrolls for the construction engineering force of the

Board of Transportation, and the pay checks for the Boards of Education and Higher Education.\*

### Volume of City Payrolls

The preparation of payrolls is one of the major City functions. As of June 30th, 1951, there were 218,542 New

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Digest from "Survey of the Payroll System of the City of New York," by Barrington Associates, Inc., October 22, 1951.

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\*ED. NOTE: The statement in the Report which includes libraries and museums is incorrect, except for the Staten Island Institute of Arts and Sciences and the Staten Island Zoological Society.



York City employees. For the fiscal year 1950-51, salaries and wages for personnel services of City employees totaled \$580,139,880.67. Pay checks are issued at the rate of 5,000,000 a year on a weekly, semi-monthly, or monthly basis.

It is practically impossible to derive complete, accurate data concerning the number of City employees doing payroll work, or the man-hours devoted to that function. Borough offices, field offices, district offices, and other subdivisions have clerks so engaged, either on a full-time basis, or in conjunction with other work. However, an analysis of the

ratio of payroll clerks to the total number of clerks in certain departments indicates that approximately 6 percent of all City clerks are assigned to payroll or related work. Another group of workers, spending full or partial time on payroll matters, should include typists, various machine operators, accountants, auditors, and examiners.

A conservative estimate for all personnel services chargeable to payroll and related work could range from a minimum of \$2.5 million to a maximum of \$3 million a year—the equivalent of 833 to 1,000 clerks figured at \$3,000 per annum.

## PRESENT PAYROLL PROCEDURES

At the appropriate time, all payroll information is submitted on standard forms by the agencies to the Central Payroll Division (Office of the Comptroller). The information is then processed by the Payroll Bureau of the Municipal Civil Service Commission, Paymaster's Division of the Treasurer's Office, and Division of Disbursements and Withholding Tax Division of the Office of the Comptroller.

### The Central Payroll Division

The Central Payroll Division, with a total personnel of 107, audits all payrolls; prepares payroll sheets, pension and withholding tax deduction sheets, and other forms for all City departments, excluding Boards of Transportation, Education and Higher Education, Public Libraries and Museums, Triborough Bridge, and Tunnel Authority; and prepares pay checks for all City departments, excluding the operating force of the Board of Transportation, Public Libraries and Museums, but including the Staten Island Institute of

Arts and Sciences and the Staten Island Zoological Society.

### Payroll Procedure

A master file of embossed plates is maintained by the Addressograph Unit for every employee in 82 City agencies. This master file is changed when the "Report of Changes in Personnel" is filed with the Central Payroll Division by the departments. These reports must be in the hands of the Central Payroll Division not later than the 1st and 16th day of each month for semimonthly paid employees.

Changes involving new appointments, salary increases, or promotions are checked by the Personnel Examining Unit with the Budget Director's certificate provided as authorization. The changes are made in the Addressograph Unit where new plates are prepared and the master file made current with the authorized changes.

The Payroll Sheet contains the gross amount due each employee, withholding tax deductions, pension deductions,



Health Insurance Plan deductions, garnishee and/or Family Court deductions, if any, and the net amount payable.

The salary checks are prepared by the Addressograph Unit.

The Tabulating Unit maintains a master file of punched tab cards from which deduction schedules are prepared for withholding tax deductions, pension deductions, and garnishee and/or Family Court deductions. The deduction schedules, together with the payroll, are sent to the respective departments for certification and additional accounting transactions. After certification and accounting, the schedules and payrolls are returned to the Central Payroll Division for examination and audit.

The payrolls are sent to the Civil Service Commission for certification and then returned to the Central Payroll Division.

Upon return to the Central Payroll Division, the payrolls are again checked by the examiners for any changes that may have been made by the Civil Service Commission.

The pay checks are sent to the Check Writing Unit where the check number, net amount of pay, and a code number indicating the amount are placed on the checks. A schedule of pay checks is prepared simultaneously with the check-writing operation. Typewriter-bookkeeping machines are used to prepare the checks and schedules.

A final audit of the payroll and Check Register is made and the Auditor of Accounts prepares the warrants and warrant schedules, which are forwarded to the Division of Disbursements for appropriate ledger entry.

The warrant is then sent to the Comptroller's representative for signature and finally to the Treasurer's Office for countersignature.

The Payroll Sheet and pay checks, in the meantime, are forwarded to the Paymaster's Division where the Signature Unit prints the City Treasurer's signature on the checks by means of the check-signing machine. The checks are notched to indicate the pay period involved.

The payroll and checks are disbursed by the Payroll Distribution Unit (Paymaster's Division) after the warrants are signed. They are picked up on pay day by department personnel.

### **Payroll Bureau, Municipal Civil Service Commission**

The bureau examines and certifies payrolls of 68 City departments in accordance with Section 20, Civil Service Law. Payroll and roster and service record cards for 170,000 permanent employees and 15,000 to 18,000 provisional employees are maintained by the bureau.

The Civil Service Commission has a Machine Tabulating Unit that prepares payroll cards, receipt lists, and employee cards for the provisional employees only. The unit develops other data pertinent to payrolls, including the preparation of payroll cards for new employees and the listing of all regular employees by tax number, showing gross pay and withholding tax amount, the latter to be used in the Comptroller's Office.

### **Withholding Tax Division**

The Withholding Tax Division, with a total of 48 employees, issues annually Federal Withholding Tax Statements to employees and also forwards them, together with the Employee's Earnings Record, to New York State. Approximately 210,000 "W-2's" (the form used)



were prepared in 1950 for all City employees, including Board of Education and excluding Board of Transportation. A control ledger is maintained for the accounting of taxes withheld, which, for 1950, amounted to \$60 million. The issuing of the statements is delayed each year; the City is required to ask for an extension of time and is usually given 30 days.

This work, extending from January 20 to the end of March 1, requires overtime work and additional rentals for the use of the equipment beyond the normal work day.

The delay in starting the statements stems principally from the type of payroll system currently used. The system requires numerous adjustments to the accounting records, before the preparation of the withholding statements can be started. It is not until January 20 that the division can proceed with the statements. In the meantime the City employees are waiting for the W-2's to file their income tax returns.

### **The Central Payroll Division**

The Central Payroll Division of the Comptroller's Office, with 34 employees, signs, distributes and reconciles all payroll checks, except for the Board of Transportation and Tunnel Authority. It countersigns and disburses 200 bank warrants, reconciles payroll disbursements for 31 bank accounts, and administers the refunding of money to the respective accounts, such as unearned salaries and the deductions affected.

### **City Departments**

Five phases of payroll entail a great amount of effort by personnel in the payroll bureaus of the various City departments: attendance records, preparation of Report of Changes in Personnel, Payroll Sheets, Recapitulation of Payroll, and Summary of Payroll.

The recapitulation of the payroll, as prepared by the outside departments, represents an especially laborious task, inasmuch as all figures are posted manually and in most cases totaled manually. At times totals are checked by comptometer operators or adding machine operators.

In one department, with approximately 4,300 employees, 25 clerical hours are spent on recapitulating its payroll during each semimonthly pay period, or a total of 600 man-hours for the 24 pay periods during the year.

The fiscal bureaus prepare manually personnel service budgets by listing all budget lines and the names of the employees chargeable against each line. Various column headings are listed to include data on salaries, increments, vacancies, savings, chargeable funds, and other information. In addition, they maintain salary and wage records by payroll periods, appropriation ledgers for salaries and wages, deduction records by payroll periods, attendance records, and other records. The information contained in these records could be furnished by the Central Payroll Division by means of mechanized procedures.

## **PRESENT PAYROLL MECHANIZATION**

The use of machines for payroll preparation and related work has been confined, in general, to the operations

in the Central Payroll Division, Withholding Tax Division, Municipal Civil Service Commission, and the Division



of Disbursements. Other departments where payroll work is performed in varying degrees and which have machine installations are the Department of Public Works, Department of Sanitation, Borough Presidents' Offices, Hunter College, and New York Public Library.

The machine installations have been adapted generally to the work as performed in the units concerned. Little or no consideration has been given to co-ordinating and integrating interdepartmentally. In most cases the machine utilization is irregular because the installation is geared to peak loads. In some cases these machines have been acquired for a special purpose to meet emergency situations.

### **Central Payroll Division**

The Addressograph Unit has 13 graphotypes and 15 printers and normally employs 27 operators and 3 clerks. Printing of pay checks and their schedules is started in the Addressograph Unit and completed in the Check Writing Unit. Checks are paper type, purchased in continuous fan-fold form. They are automatically fed through printing machines that extract from individual addressing plates at the rate of 20,000 per 7-hour day. Approximately 5,000,000 checks are printed in a year.

The pay checks are completed in the Check Register Unit, where 14 typewriter-bookkeeping machines are operated manually to insert the net amount earned, and also to produce the "Schedule of Pay Checks" listing the check number and amount. The Unit also contains 10 electric typewriters, 2 bookkeeping machines, an addressing plate embossing machine, and a check bursting machine.

Before preparing the salaried payrolls, about 8,000 changes in personnel status must be made, requiring the preparation of new plates for 90 percent of these changes. At least twice a year and on other occasions, a greater portion of the 160,000 plates maintained by the Addressograph Unit are subject to change. For example, in January plates are changed because of mandatory salary increases; changes are made in July because of revisions to the budget. The changes are of such magnitude that additional outside service is required.

The labor cost alone for cutting, sorting, and filing plates averages approximately \$12,000 for each general changeover, or a total of \$36,000 for three such changes experienced during seven months, January to July of 1951.

As in the Addressograph Unit, the tab cards are kept up-to-date by punching new cards from the 20,000 to 30,000 changes reported per month through the "Report of Changes in Personnel."

### **Withholding Tax Division**

The equipment in this division is operated by 20 tabulating-machine operators. The various tabulated forms and records are checked by another group in the same division, known as the Auditing-Examining Unit. This group consists of 25 persons including 5 more tabulating-machine operators.

### **Machine Utilization**

The tabulating equipment in the Central Payroll Division is used only 10 percent to 20 percent of capacity each payroll period, except for peak loads occurring two to four times a year, when the master file of cards is repunched. The tabulating equipment in the Withholding Tax Division is generally used up to 75 percent of capacity during the



regular pay periods. During the peak loads occurring quarterly when government reports are prepared, and annually when withholding tax statements are prepared, the equipment is used up to 100 percent of capacity. The division of withholding tax deduction work between the Central Payroll Division and the Withholding Tax Division increases the machine rentals and decreases machine utilization.

### **Sanitation Department Machines**

The Department of Sanitation has a group of machines of various types located in the Payroll Bureau, exclusively for processing the payrolls.

The Payroll Bureau prepares four semimonthly payrolls covering 2,600 employees and five weekly payrolls covering 10,000 employees. The semimonthly payrolls are handled like all other similar City payrolls. The weekly payrolls involve more detailed procedures, which, for the major part, were handled formerly by the Central Payroll Division. As a result, there is a duplication in addressing equipment used to maintain separate embossed plates and resulting in loss of machine usage. For example, the nine high-speed payroll machines, costing \$3,000 per machine, were acquired when H. I. P. (Health Insurance Plan) was instituted. The machines are now used for one step, to print gross amount on payroll sheets, consuming only six hours one day per week.

### **Condition of City-Owned Machines**

The City of New York owns all the machines in the Central Payroll Division and the Department of Sanitation, with the exception of the tabulating equipment which is leased from the manufacturer on a rental basis. The rental fee includes maintenance service as provided in the contract and thus keeps machines in operating condition.

The maintenance expense of the City-owned machines is borne fully by the City. This presents a serious situation. The age of the addressing machines in the Central Payroll Division ranges from a few months to 21 years. Repairs to these machines from 1936 to April, 1951, have amounted to \$15,165.13 and from 1946 the maintenance cost has averaged \$1,627.00 per year.

The cost of repairs and maintenance for the typewriting-bookkeeping machines from 1937 to April 16, 1951, has totaled \$15,411.24, or an average of \$1,100.00 per year. In 1950 an additional \$7,000.00 was spent for an overhaul job, thus bringing the annual average maintenance cost up to \$1,600.00.

An appraisal shows that the machines can be used for another year, probably two, at the expense of additional repairs and the possibility of encountering unexpected breakdowns resulting in delayed issuance of pay checks. The City is thus faced with the immediate problem of securing other machines to perform the check writing and check register listing.

## **DISADVANTAGES OF THE PRESENT PAYROLL SYSTEM**

The payroll system currently used by the City in processing semi-monthly payrolls is referred to as a "current" or "anticipated" type of payroll system as contrasted with a "delayed" type.

The "current" or "anticipated" system implies that the preparation of the payrolls takes place currently with the payroll period, so that payments can be made on the last day of the pay period.



When the payroll preparation begins, for example, on the 10th of the half month ending on the 15th, certain facts are anticipated. It is anticipated that the employee will earn full pay for the balance of the pay period. However, the employee could be absent, promoted, resigned, etc., which would require a change in the amount of pay between the time the payroll is prepared and when it is paid.

The difference between the payroll as prepared and the action subsequent to its preparation results in time-consuming phases of payroll work including "refund," "supplementary payrolls," and "split checks," which are explained below. Of these, one of the most serious disadvantages is the necessity for making refunds.

There are many instances when the checks returned do not equal the amount listed on the refund notice due to the deductions made on the payroll for pensions, garnishee, Family Court matters or Health Insurance Plan. It becomes necessary for the Paymaster Division, in these cases, to transfer the money by making various adjustments in order

to complete the refunds to the City Treasury.

### **Supplemental Payrolls and Split Checks**

Another disadvantage is the necessity of preparing supplemental payrolls for employees who are not paid on the regular payrolls. During 1950, a total of 108,946 pay checks was prepared from supplemental payrolls.

A final significant disadvantage resulting from the anticipated type of payroll system involves the printing of additional checks, referred to as split checks or divided checks. When the full amount of pay is not earned, the original check is withheld and the full amount divided between two subsequent checks, one to be issued to the employee with the correct amount earned and the second check representing the balance of an unearned portion to be used for accounting control purposes.

During 1950, 24,000 checks were split and another 21,000 were refunded in full. Several thousand more are printed because of errors in reporting changes and because of multiple transactions.

## **RECOMMENDATIONS**

During the course of this survey, a number of payroll systems were observed in actual operation. Among the larger installations were those of the New York State government at Albany, the City's Board of Transportation and Division of Disbursements, and the United States Treasury Department in New York City.

The machines observed in conjunction with the above installations are representative of the type used by organizations cognizant of mechanized methods applicable to high volume productions.

The types included addressing equipment featuring embossed plates, tabulating equipment with punched cards as the basic form, and bookkeeping-accounting machines especially adapted to payrolls.

To develop the most economical payroll system, a number of time-consuming and costly operations should be eliminated. These include refunds, supplementary payrolls, split checks, delayed Withholding Tax Statements, peak loads, overtime work, and similar annoyances of significant proportions.



The New York City payroll, in terms of employees, is probably the largest prepared at one location. While size alone could dictate the type of payroll system, there are other influencing factors making payroll work increasingly complex and burdensome. Many years ago the employees received salaries representing the total amount earned for the time worked. Now, the gross amount due is adjusted by deductions of many kinds, such as taxes, mandatory increments, merit increases, cost-of-living bonus, and other reasons related to rules and regulations regarding vacations, absences, sick leave, and the like.

### **Delayed Payroll**

When the preparation of a payroll occurs after the time worked, the payroll system is referred to as a "delayed payroll plan." This plan is generally practiced where employees on an hourly or daily rate basis are paid only for the time actually worked. It prevails, for example, in the Department of Sanitation where the work week extends from Sunday through Saturday and employees are paid the following Friday. The delay is necessary since the actual hours worked are not known until the work week is completed.

The application of the same principle, that of delaying payment to salaried employees now paid semimonthly, is recommended for New York City's high volume payroll. Such a plan would eliminate the costly procedures of refunds, supplementary payrolls, and split checks. In addition, the Withholding Tax Statements would be expedited and the overtime experienced early in the year to balance the accounts and prepare employee statements for income tax purposes would be avoided.

It is recommended that the transition from the "current" payroll plan to the

"delayed" payroll plan be accomplished gradually rather than attempt the changeover at one time. Payment to employees under the delayed plan should be deferred one day each payroll period until the delayed period has been reached. The time that payments could be delayed is dependent on the organization of the payroll work. It appears that a delay of only one week would be practical.

### **Biweekly Payroll**

Further benefits could be obtained by establishing a "biweekly pay period plan," in place of the semimonthly pay periods currently used. With salaried employees now paid twice a month, the day of the week on which pay periods end varies from month to month. Biweekly pay periods would establish 26 pay periods in a year, with employees paid on the same day each period.

Although two more payrolls would have to be prepared, as compared with the present 24 for semimonthly periods, the proposed plan offers definite opportunities with respect to operating schedules and machine capacity.

The employees, especially those receiving smaller salaries, might benefit materially by receiving their pay checks on definite days at regular two-week intervals which would eliminate the necessity for stretching their incomes at certain times during the month.

The biweekly payroll plan makes possible a uniform plan for computing employees' earnings when days worked is a factor. Salaried employees suffer deductions of  $1/31$ ,  $1/30$ ,  $1/29$ , or  $1/28$  of the monthly rate when absent one day. The amount deducted varies with the month during which the absence occurred. In the Department of Sanitation, where most of the personnel are paid weekly, it was noted that some of



them are paid on a basis of 313, 302, or 250 working days per year, but all predicated on an annual salary rate.

It is recommended that all employees on an annual salary should be paid for the same number of days per annum, for example, 260 days consisting of 5 days per week for 52 weeks. A single chart showing daily earnings, deductions, and net pay could replace the several charts required now.

### **Alternate Pay Days**

The establishment of alternate pay days is recommended. For example, one group of salaried employees would be paid on one Friday and another group on the following Friday. Such a plan would result in a more effective control of productivity and utilization of equipment in payroll preparation; personnel and machine requirements would be reduced.

The principle of alternate pay days is recommended also for application to the weekly payrolls, under a staggered system. It should be noted that the Board of Transportation employs a staggered pay plan for its weekly paid personnel.

### **Merger of Payroll Functions**

It is recommended that the Withholding Tax Division be merged with the Central Payroll Division. The volume of work could be substantially reduced by having the Board of Education control the withholding tax deductions during the preparation of their payrolls. The Board should prepare and issue the withholding tax statements. The complexity of withholding tax deductions would be materially lessened with the "delayed type" payroll previously discussed. The merger would combine the Tabulating Units and the Audit-Ex-

amining functions of the two divisions, from which immediate economies could be realized.

By combining the Audit-Examining procedures required for payroll and withholding tax accounting, allocation of personnel services could be advantageously arranged. Peak work-load periods and low activity cycles usually associated with payroll work could be minimized through balanced schedules and assignments.

The Reconciliation Unit of the Paymaster's Division, responsible for reconciling canceled pay checks, could also be integrated with the mechanized procedures recommended for the Central Payroll Division.

Since the refunding of unearned salaries is virtually unnecessary with a "delayed" payroll plan, there remain three other functions in the Paymaster Division to consider—check signing, check distribution, and banking. It is recommended that these functions remain in the Paymaster Division for the purpose of internal control. However, it is believed that the personnel could be reduced because the accounting work required for refunds would be eliminated and the payroll work would be more evenly distributed through the application of the every other week and alternate pay period recommendations.

A final merger could be accomplished relative to the examination and certification of payrolls. When the department concerned and the Central Payroll Division have been authorized by the proper authorities to make personnel changes, including appointments and promotions, it should suffice to have the changes examined and certified outside of the Civil Service Commission. The merger of these departments may require a clarification of the Charter.



The Personnel Examining Unit of the Central Payroll Division can be equipped with the necessary records to examine payrolls completely. The Audit Unit in the same division is in an excellent position to examine all monetary data pertaining to application of correct salaries to specified personnel. The departments have the opportunity of certifying their payrolls with regard to personnel and salaries upon receipt of payroll sheets. The Civil Service Commission can be kept informed of personnel changes and salaries through change notices. If necessary, the Commission could examine the payrolls.

### **Production and Quality Controls for Machine Operators**

Production and Quality Controls are effectively used by the Division of Disbursements of the City Comptroller's Office, the United States Treasury, and many business establishments.

It is recommended that the City install a system for controlling production and quality of machine operations as a part of the proposed Mechanization Plan. The system would include productive and quality standards; measuring employee performance against standards; and using the performance ratings for evaluating employees.

## **RECOMMENDED MECHANIZATION**

A number of methods for preparing the weekly, biweekly, and monthly salary payrolls were explored and the major office equipment manufacturers' mechanical systems were studied to evolve the simplest, most accurate, and most economical methods.

The plan presented herewith is a combination of a number of mechanical systems. It consists of the following mechanized units:

(1) An Addressograph Unit which will prepare a permanent plate for every employee embossed with name, address, gross pay, all deductions, net pay, permanent employee number, employee budget job number, etc., as outlined previously and detailed later.

(2) A National Cash Register Unit which will prepare payrolls for weekly-paid employees, part of whom work other than regular hours and, therefore, receive varying pay.

(3) A Tabulating Unit which will gather all statistical and accounting data, post the individual earnings record (ledger) card, and prepare the annual earning and withholding tax

reports to the Federal government and State government.

The Addressograph Unit will prepare the following: (1) a pay check with stub; (2) a tabulating card; (3) payroll, pension, and withholding tax deduction schedules; (4) an individual earnings record card; and (5) the W-2 and 105 Forms printed with name and address.

The National Cash Register Unit is the recommended method for preparing a 16,000 weekly payroll of which a relatively small number (4,000) of weekly employees work varying hours and are also paid overtime.

The tabulating system is the recommended method for accumulating earnings, posting them to earnings records (ledger) cards, and for posting the annual earnings and withholding tax to the W-2 and 105 forms. (The latter is the New York State Earnings Record.) It is also the recommended method for reconciling checks with bank statements.



## Addressograph

The addressograph machines will produce a punch card check to pay each employee and to use internally in the Central Payroll Division, the Comptroller's Office, and the Finance Department to reconcile checks or for other accounting and statistical purposes.

An addressograph plate will be prepared for every employee as a permanent record of salary and all deductions. The plate consists of a metal frame containing three embossed plate sections and a punched hole card section. The three plate sections are for name, address, and pay with deductions. The punched hole section converts the pay with deductions into punched holes.

The three embossed plate sections are produced by Flexowriter and automatic Graphotype Machines.

The Flexowriter is a standard electric typewriter with an attachment which produces, as a by-product operation, a paper tape in which the typing machine punches holes. The tape is then placed in the automatic Graphotypes. The holes in the tape operate automatic Graphotypes to prepare an addressograph plate with all data embossed in the plate exactly as it appeared on the typed list prepared by the Flexowriter.

The addressograph plates are prepared by tape-operated Graphotypes for 180,000 City employees initially and for about 9,000 changes per payroll period.

From the addressograph plate any information can be printed on, or punched in, a tabulating card, or a payroll can be printed. The printed information is an exact copy of the embossing. Punched holes can be made in a tabulating card or check simultaneously with the printing of the card or check.

A space is provided in the addresso-

graph frame for a plate in which holes are key punched to correspond with the numerical data embossed on the plate inserted in the lower section of the addressograph frame. These holes operate keys in the Addressograph Model 9300 Machine to produce a pay check and punched tabulating card holes. The embossed section of the plate prints the information on the check or tabulating card in the Model 9300 Machine and prints a payroll when used in the Addressograph Model 9100 Machine.

Periodically a complete change or new file of 222,000 new plates must be made. A change in the Federal Withholding Tax Law, mandatory annual increases, cost of living bonus, general increases, or pension changes may cause new plates to be made for about 60 percent of the payroll.

It is recommended that an individual payroll change notice be used to report changes, both permanent and temporary, which a City employee normally experiences. The notice would be prepared for each change in sufficient copies to inform those interested. They should be serialized for control purposes and arranged in sequence until the end of the pay period when the forms are sent to the Personnel Examining Unit of the Central Payroll Division.

It is recommended that each of the field officers in a City agency prepare for its own personnel this Change of Status Notice Form or pay changes and forward it to its own central office.

## Payroll Preparation

Under the proposed system the bi-weekly salary payroll will be divided into two groups. One group of payrolls will be prepared during one week and the other group the following week. A total of 222,000 plates will be required for both groups.



The weekly payrolls for the Departments of Sanitation, Parks, and others will require 20,200 plates, although the plan provides sufficient capacity for 4,000 more plates required at peak periods.

The proposed procedures in the Central Payroll Division necessary to the preparation of the pay check and payroll as well as the tabulating and record cards are as follows:

(1) *Preparation of embossed plates from Change of Status Notices.* This involves use of the Flexowriter. From tapes prepared on the latter, the Graphotype embosses a plate. It is estimated that one operator can operate 7 to 10 Graphotypes. The embossed plates are inserted in the addressograph plates by hand, the assembled frame and plate is hand filed, and the old plate is removed from the file.

In the upper section of the addressograph plate, key punch operators punch information on gross and net pay, register number, budget job number, and deductions.

The frame with plate is run through Model 9100 Addressograph for proof listing. Proofreading is done manually by a single operator against the original Change of Status Notice.

(2) *Printing of Payroll Sheets and Withholding Tax Deduction Schedule.* A monthly and biweekly payroll is printed on the 9100 machine. A time sheet and a proof payroll sheet for the weekly payroll are printed each week with the employee's regular time and pay printed. For the approximately 25 percent of the latter on other than regular hours, the printed payroll line is crossed out and the corrected pay inserted by hand. The totals will then be adjusted by hand.

The Withholding Tax Deduction Schedule will be produced by carbon impression while printing the Payroll Register.

(3) *Printing of the Schedule of*

*Pension Deductions.* A selected list of plates is run on the 9100 Machine, the selection of plates to be printed being made by a tab marker on the plate.

(4) *Maintaining the Earnings Ledger Card.* This card is imprinted on the 9100 Machine. Only the first line is imprinted on the ledger card. Subsequent entries for each pay period will be made by the tabulating machines. As changes are made in an employee's pay or deductions, a new plate is made.

(5) *Preparation of Pay Checks and Stubs.* The pay check and tab card are produced on the 9300 Addressograph Machine. Each check will have a stub for the employee to keep, showing gross pay and deductions. The weekly payroll checks will also be run, but only for check number and employee name and number, the pay being filled in on National Cash Register machines. Dating and signing can be done as part of this operation. Checks for salaried employees will be made on one run of the plates through the 9300 Machine. Tab cards for both salary and weekly-paid employees will be produced with another run at a higher speed. The tab card will have punched and printed on it the register number, gross pay, earnable compensation, Federal withholding tax, and pension deductions, 3 percent or 4 percent.

### IBM Tabulating

The recommended procedures for the reconciliation of pay checks, recapitulation of payroll posting to earnings ledger cards, and preparation of Withholding Tax Statements utilizes IBM Tabulating Machines. An outline of the tabulating operations follows:

There are 180,000 biweekly checks, or 90,000 to be handled each week, since the payroll will be divided into two groups. In addition, there are 16,000 weekly-paid employees. Therefore, a total of 106,000 pay checks are to be handled each week.



Periodically the canceled pay checks will be collated, or matched, with the tabulating card, prepared during the addressograph operations previously described, to determine the checks outstanding and to balance with the bank statements. The unmatched accounting-tabulating cards remaining will show this balance. Operations are as follows:

(1) The canceled checks received from the banks will be tabulated on a Model 285 IBM Tabulator. They will be sorted each week, by Check Number, on Model 082 IBM Sorter.

(2) The canceled checks are again tabulated on a Model 285 IBM Tabulator and listed. The checks having been arranged in Check Number sequence as above are, therefore, in the same order as originally issued. All checks received up to the time this operation is performed will be posted against the control sheet which shows the original list of checks issued.

(3) The machine will indicate a missing check by the character "M." The clerk will pick up the amount of the original checks (not yet cashed) outstanding and will list these amounts by hand on a tape, to balance with the bank balance.

### **Recapitulation of Payroll**

The accounting-tabulating cards prepared during the addressograph operation previously described will be used to prepare a recapitulation of the payroll prior to sending the payrolls to the City agencies for certification.

The tabulating cards will be sorted on a Model 082 Sorter by departments, to Budget Job Numbers, at a rate of 9,500 an hour. They will be listed and totaled by Budget Job Number and tabulated by Department Number on a Model 402 IBM Accounting Machine.

The tabulating cards must be resorted to restore them to the original order by Check Number so they can be used by

the Comptroller's Office and the Finance Department.

### **Withholding Tax Statements**

Every employee from whose wages income tax has been withheld is entitled to receive from the City two copies (original and duplicate) of a "Withholding Tax Statement," Form W-2. This statement shows the total amount of wages paid and the amount of tax withheld, if any, during the previous calendar year. According to the law, such statements should be issued to the employees by January 31. However, as mentioned earlier in this Report, the City was unable to complete the 1950 statements until March, 1951.

The recommended procedures propose to complete the statements within 30 days after the end of the calendar year. It is estimated that 9 employees as compared with the 20 employees now used will be required to perform the withholding tax operation with the IBM tabulating equipment recommended. An outline of the procedures follows:

(1) A duplicate set of the original tabulating cards will be obtained through the Model 514 IBM Reproducer and used for the subsequent steps in the procedure. The current duplicate cards will be accumulated for 4 pay periods or 8 weeks.

(2) These cards are sorted by employee number on Model 082 IBM Sorter at the rate of 4,500 per hour for a 6-column sort.

(3) A summary card will be punched for the 8 weeks pay of each employee by a Model 514 IBM Reproducer hooked up with a Model 402 IBM Accounting Machine. They will be posted to the individual earnings ledger cards using a Model 402 IBM Tabulator with a comparing bill feed.

The Federal Withholding Statement (Form W-2), a paper form, is available in 4-part sets, containing carbon in-



serts and New York State's Earnings Records, Form 105, a tabulating card. The sets can be obtained in strips of ten or in a continuous form. It is recommended that the forms be prepared with addressograph and typewriter-bookkeeping machines.

The 4-part set in continuous form or the strips will be imprinted with name and address by the Model 9100 Addressograph Machine, for both salary and weekly payroll employees.

The statements will be filled in with total Federal income tax withheld and total net pay at the close of the year on typewriter-bookkeeping machines from data from the individual earnings ledger record. The typists are available from the Flexowriter and Key punch operation. Ten available operators can produce the entire amount of reports in 20 days with 10 machines.

There are two alternate methods proposed by IBM which might be worthy of consideration at some future time.

**Alternate Method No. 1**—If approval can be obtained from the United States Treasury Department to substitute a tabulating card form for the paper Form W-2 now prescribed, it would be possible to fill in the employee's name and address and punch in the employee's number on both the W-2 and 105 tabulating cards. Both cards could be put through the bill feed on the tabulator, obtaining the earning data from the ledger card. The employee number would be used on the comparing station to prevent wrong posting.

**Alternate Method No. 2**—The second method employs the first alternate method for preparing the 105 form. However, the W-2 in a continuous paper form will be run through on IBM tabulator where the comparing station of the machine will indicate the forms which are out of order with the earn-

ings ledger cards. An opportunity will thereby be available to correct any disorder in the sequence of the W-2 forms. Furthermore, misposting of earnings will be prevented when the forms are run through the bill feed.

### **National Cash Register**

The National Cash Register Machine Model 145 is recommended for the preparation of payrolls for weekly-paid employees of whom the majority are located in the Departments of Sanitation, Parks, and Public Works.

Certain procedures in the weekly payrolls will be integrated with addressograph and tabulating operations. In order to picture the flow of weekly payrolls in their preparation, the procedures are presented with all operations included in one section.

### **Preparation of the Weekly Payroll Sheets and Pay Checks**

(1) The weekly payrolls will be started with the listing by the Model 9100 Addressograph Machine of payroll sheets with names only, payroll sheets with names and regular pay, and time sheets with names only. (The sheets will be forwarded to the respective departments where the field offices will revise the regular earnings to reflect the actual hours worked. The departments will enter earnings on the employee's earnings ledger card. A copy of the revised payroll and the earnings ledger card will be returned to the Central Payroll Division.)

(2) The 16,000 weekly payroll checks will be made on the National Cash Register Machine, in the form of a tabulating card and stub previously imprinted with employee name and number by Model 9300 Addressograph Machine. The figures taken from the revised payroll sheets will be calculated by the National Cash Register Machine and the



amounts, including gross pay, deductions, and net pay inserted on the pay checks. Simultaneously, the machine will prepare, in addition to the check, the stub, the individual earnings ledger card, and the payroll sheet.

(3) The weekly pay checks will be key punched for net amount of pay only by using Model 024 IBM Key Punch. The check number and employee number were previously printed and punched on the Model 9300 Addressograph Machine.

(4) Approximately 25 percent of the IBM tabulating cards previously prepared for the weekly payroll employees must be hand pulled from the file and remade because of change in pay. These cards are placed in the Model 514 IBM Alphabetic Reproducing Punch. Automatically the employee number and other unchanged data will be duplicated on a new card.

(5) The 4,000 new cards will be hand punched for the changed data, which will be obtained from the finished payroll produced on the National Cash Register Machine. These cards will be refiled since they will not be reprinted.

### **Bureau of Retirement and Pensions**

It is recommended that the tabulating punched card used for payroll purposes be extended from the Central Payroll Division and applied to the retirement records and loan accounting operations. These functions are performed in the Bureau of Retirement and Pensions.

It is estimated that the application

of a tabulating punched card system in the Bureau of Retirement and Pensions will permit complete elimination of the present Machine Posting Department which has approximately 40 machine operators and clerks utilizing 27 book-keeping-accounting machines. A further saving of personnel service appears probable with tabulating mechanization of loan accounting operations.

A total saving of 60 persons in the Bureau of Retirement and Pensions could be effected by integrating their operations with the Central Payroll Division.

### **Personnel and Machine Requirements**

In estimating personnel and machine requirements, liberal allowances have been made in all calculations by using hourly production rates for City employees at two-thirds of average commercial production and using daily production rates for 6 hours only. Therefore, the effective production is about 57 percent of the commercial rate. In addition, liberal allowance for both personnel and machines has been made after making due allowance for a production schedule which calls for producing the work within a peak period.

A force of 53 persons will be necessary to operate the machines, using the above recommended installations, in addition to which three supervisors must be added.

## **SAVINGS**

The application of the principles recommended to effect a simplified and economical payroll system would realize net annual savings of \$1,044,640 consisting of personal service and machine rentals.

Approximately 351 fewer employees

are anticipated for working payrolls and related activities. (The savings involving personal services were presented in detail to the City Payroll Department.)

The capital outlay for the purchase of machines totals \$235,520, while the



annual machine rentals total \$24,120 for payroll purposes and an estimated \$50,000 for mechanizing the retirement system.

(1) At the end of the first year—		
Saving of personal service	\$1,053,000	
Saving of present machine rentals .....	65,760	
Total .....		\$1,118,760
Recommended purchase and rental of machines for payroll purposes....	259,640	
Estimated machine rentals for mechanized retirement system .....	50,000	
Total .....		\$ 309,640
Total Net Savings		\$ 809,120

The net savings for personal services and machine rentals are figured below.

(2) For subsequent years—		
Saving of personal service	\$1,053,000	
Saving of present machine rentals .....	65,760	
Total .....		\$1,118,760
Recommended machine rentals for payroll purposes .....	\$ 24,120	
Estimated machine rentals for mechanized retirement system .....	50,000	
Total .....		\$ 74,120
Total Net Savings		\$1,044,640

SECTION 3

SELECTED CITY DEPARTMENTS

By

BARRINGTON ASSOCIATES, INC.

The City has many thousands of office machines, most of which it owns. In addition, about \$650,000 a year is spent for the rental of office equipment. The rented machines, mostly tabulating equipment, are reasonably new. Many of the City-owned machines are old, some are 25 to 30 years old. The average age of all of the equipment is estimated

to be about 12 years. The normal useful life of office machines is generally considered to be about 10 years. The present practice for replacing equipment condones high maintenance and repair costs and the use of inefficient machines.

In the following discussion, 11 selected City departments are considered. The adoption of the recommendations made would produce total economies estimated at \$485,000 a year.

Digest from "Survey of Office Mechanization in Selected Major Departments, City of New York," by Barrington Associates, Inc., October 25, 1951.



## DEPARTMENT OF PUBLIC WORKS

The Department of Public Works, the principal engineering, architectural, and construction agency of the New York City Government, is organized into eight divisions, each division headed by a director. There are approximately 4,200 employees.

Most of the clerical work of seven of the divisions consists of either the maintenance of time records for divisional employees, or the maintenance of records peculiar to the particular division, such as classifying and filing blueprints for the Division of Buildings. Since neither of these functions is large enough in volume nor consumes sufficient man-hours to lend itself to mechanization, no study was made in them. However, a survey was made in the Division of Administration, which maintains payroll, personnel, accounting, and supply services for the Department.

### Division of Administration

No study was made in the Filing Section or the Stenographic Section, since volume does not warrant mechanization.

**Budget Control Section**—The three persons in this section maintain a record of departmental employees to insure that budget allowances are not exceeded. Three types of records are maintained: (1) list of employees by budget code; (2) alphabetical list of employees; and (3) card record by budget line and code. This section prepares all change notices on the status of employees and forwards the notice to the various sections including Tabulating, where the change is made on the individual employee card. The first two

records outlined above are prepared on IBM equipment at irregular intervals and show only current conditions. The card record is maintained manually and shows conditions at the beginning of the budget year and the changes that have been made.

**Personnel Section**—Eight persons in this section perform the personnel duties of recruiting, interviewing, and hiring new employees; obtaining budget certificates; and maintaining personnel records. The work here is mainly a manual operation and would not justify the time and expense of using the services of the Tabulating Section.

Three general observations are submitted: (1) the employee personal folder should be maintained by the Personnel Section, not the File Section; (2) space allotted this section is inadequate for interviewing and processing new employees; and (3) Kardex files housing the card record of each employee are antiquated. A small desk-type Kardex file would be more flexible and easier to use.

**Attendance Section**—Records of absences, vacation days, and sick leaves are maintained in this section. Claims under Workman's Compensation Insurance are recorded. The process is a manual operation with few machines used, and no need for further mechanization.

**Payroll Section**—Nine employees in this section process the payrolls for the Department. For about 3,400 per-annum employees, much of the work is mechanized on IBM. The Tabulating Section maintains a punch card deck of current payroll cards. From these cards, the



Payroll Recapitulation and the Summary of the Payroll are prepared. The same deck also is used to print the basic information on the time sheets for field locations. The Report of Changes in Personnel, and the individual employee earnings cards are posted manually. About 800 per-diem employees are paid weekly. Since their pay may vary from week to week, the per-diem payrolls are prepared manually.

**Accounting Section**—This section has two main functions: (1) cost accounting, which includes capital budget accounting and departmental maintenance and operation accounting; and (2) fund accounting, which includes the accounting for budget control, voucher-ing, and real estate. The only manual operation is the work done for "Privileges." This is a small operation and it would be impractical to attempt to mechanize it.

**Procurement and Supply Section**—This section maintains a small storeroom for office supplies. In addition, it is equipped to do photostat, multilith, blue-print, and addressograph work. All operations are performed manually and do not lend themselves to mechanization.

**Tabulating Section**—This section consists of 12 employees including the

supervisor, all of whom operate IBM machines. References have been made to the section throughout this Report but, in general, records are tabulated for the following sections: Budget Control, Accounting, Payroll, and Attendance.

### Summary and Recommendations

The functions of five of the clerical sections, involving about 50 employees, do not lend themselves to mechanization. In the remaining three sections, employing about 25 persons, the operations are mechanized on IBM tabulating equipment to a high degree.

An analysis of the tabulating operations indicates that the systems are well organized, efficient, and time-saving. However, it should be pointed out that there is duplication in the records of the Department of Public Works, Accounting Section, and the Comptroller's Office. This duplication is especially apparent in the case of the various Contract Ledgers, Statement of Contracts, and Statement of Condition of Appropriation Accounts. This duplication should be eliminated. The Comptroller's Office should have only summary figures that can be kept current from month to month.

## DEPARTMENT OF HOSPITALS

There are four operating bureaus, each headed by a director, in this Department of approximately 30,000 employees. The principal clerical activities are centered in the Bureau of Administration and the Bureau of Supply. Both bureaus are located in the Central Office.

### Bureau of Administration

The Bureau Director has an over-all responsibility for 400 employees. The

functions are divided among four divisions.

**Division of Personnel**—This division is responsible for personnel, staff control, payroll, training, and counseling services.

The Staff Control Section, consisting of four persons, receives and processes the requests for budget certificates. Using the certificates and other personnel change notices, an attempt is made to



control the staff so as to conform to budget allowances. However, because of the large turnover of personnel (approximately 10,000 a year), control of personnel is practically impossible with present methods. It is difficult to ascertain how many employees are at a particular location, how many are employed under a particular budget code, or how many persons are working in the Department at any one time.

The Payroll Section of this division is staffed by 69 persons, working in five units. Each unit handles a particular group of payrolls. The work is performed manually, with some adding and calculating machines used. When the checks are received with the payrolls on payday, the amount on each check is proved against the payroll itself before distribution to the field locations. This operation delays distribution to the messengers and does not seem necessary since all checks were balanced against the payroll by the Central Payroll Division. The principal recommendations and the resultant savings for the Payroll Section are covered in another Report by Barrington.\*

Specific recommendations for the Division of Personnel are as follows: (1) establish a system that will enable the Staff Control Section to control personnel (in view of the large number of employees in the Department, an IBM tabulating system might provide the best results); and (2) discontinue the practice of proving individual checks against the payrolls.

**Division of Collection**—This division is responsible for the billing and collection of hospital bills of patients in City hospitals. Of the 280,000 cases per year, about 84,000, or 30 percent, are revenue-producing. Money may be collected from

the patients, from private insurance companies, Associated Hospital Services, or from the State or Federal governments under various governmental aid programs. At present, collections on revenue cases amount to approximately \$13 million a year.

The Billing Section of 26 persons does the billing of the revenue cases and the necessary bookkeeping. This section includes a File Unit, a Bookkeeping Unit, and four Billing Units each handling a different type of case. The preparation of the bill varies slightly in method and forms used, depending on the type of case. The bills are prepared by typewriter, and control tapes are made on an adding machine. The machine tapes and a duplicate bill become the posting media for the Bookkeeping Unit.

The Compensation and Liability Section processes all hospital cases where the compensation and liability laws apply. There are 26 employees in this section. Because of the many laws and necessary forms involved, the processing of a compensation or liability case is, up to a point, slightly more complicated than a regular case. However, there should be no difference in the method of preparing the bill. Tuberculosis cases require special preparation by the Tuberculosis Unit before being sent to the Billing Section. Similarly, compensation and liability cases should be prepared first in the Compensation and Liability Section, then sent to the Billing Section with all other cases. The Billing Section, as organized, is flexible enough to handle all types of cases, as well as the book entries in the Bookkeeping Unit.

The Division of Analysis in 1948 outlined the present procedure for collection of bills. Recently an IBM tabulating

\*ED. NOTE: See Chapter IX, Section 2.



procedure was devised for the Division of Collections. A very small part of this procedure is being used at present, but the greater part has never been followed because of the inability of the Tabulating Section to handle the additional work load. In 1949, the National Cash Register Company submitted a proposal for a simplified billing operation, using its billing machine. This system would produce the control tapes and ledgers as well as the bill—all in one operation.

### Summary and Recommendations

The chief problem of the Division of Accounts is the difficulty of keeping up with the flow of work. It is recommended that a complete work simplification and integration program be undertaken, including the following specific steps:

(1) Increase the number of investigators. A training course for new investigators should be instituted and part of the training time should be spent in the various sections of the Department of Collections. The course should stress the need for legible handwriting, the importance of keeping up-to-date on investigations, and the part that the investigator's work plays in the functioning of the Central Office.

(2) Institute and enforce a system for obtaining daily, from each institution, a list of patients discharged that day. At present, too much of the investigator's time is spent obtaining the discharge date, which is necessary for the proper processing of the case.

(3) Eliminate the present practice of verifying the IBM master cards by hand. This is a slow tedious operation by the Review Unit, repeated to some extent in the Billing Section.

(4) Redesign the standard billing form to make use of continuous forms with "one-time" carbon. At present many clerk-hours are consumed inserting carbons in the bill forms.

(5) Provide a mechanized system of billing and bookkeeping. A system similar to that proposed by the National Cash Register Company is recommended. That proposal provides for a simultaneous operation—the creation of a bill, a control tape, and the totals in any category desired.

At present six persons type an average of 70 bills per day. With a billing machine, two operators should be able to process the same number of bills with ease. A system of this type has the added advantage of keeping the work centered in the one section. The work of the Cashier's Unit in the Division of Audit and Accounts must be integrated with any new system in the Billing Section.

Department personnel have proposed that the billing operation be performed on the tabulating equipment. This is not practical for the following reasons:

(a) The transportation of cards, bills, and forms back and forth between the Tabulating Section and the Billing Section is burdensome and time-consuming.

(b) Many of the basic records referred to by other units are out of the Division of Collection for periods of time.

(c) Increasing the work load of the Tabulating Section is undesirable with the present machine capacity and personnel.

(d) The cost of this operation would be higher on tabulating equipment than on bookkeeping machines. A revised procedure using a billing machine should save a minimum of \$25,000 a year in personnel costs.

(6) Increase the personnel of the Delinquent Accounts Section by one or two investigators to enable this section to keep up-to-date with the work flow. The speed in processing cases could be increased if the supervisor of the section were given greater authority to settle small cases thus decreasing the cases that must be sent to the Review Board.



(7) Transfer the billing of compensation and liability cases to the Billing Section. It may be necessary to send the individual ledger accounts to the Compensation and Liability Section after billing, because of the laws and regulations governing the acceptance of payments on such cases.

### **Division of Audits and Accounts**

This division performs the accounting work for the Department. The sections are divided according to function: Audits, Accounts, Vouchering, Cashier, Budget Control, and Home Care. Since most of the sections are manned by only two or three persons, the division will be discussed as a whole.

The principal duty of the cashier is to receive, process, and record the payments for the patients in the City hospitals. The second function is the compilation of up-to-date cost statistics. Under the present system, it is difficult to assemble and analyze the operating costs of the various institutions and to bring the charges to patients more

nearly in line with the actual cost figures.

### **Summary and Recommendations**

The paper work of the cashier required to record payment on hospital bills should be simplified, and tabulating machines should be used for the processing of cost figures.

### **Bureau of Supplies**

This bureau is responsible for the procurement, storing, and distribution of supplies for the institutions. The functions are divided among five divisions: Dietetics, Pharmacy, Laundries, Purchases, and Stores. The Divisions of Purchase and of Stores were the only functions warranting relatively detailed review. The Division of Stores operates various storerooms located throughout the institutions. Mechanization as such does not seem practical in maintaining the individual storeroom records, but there is a need for standardizing inventory records throughout the various hospital storerooms.

## **DEPARTMENT OF PARKS**

There are about 4,800 permanent employees in this Department. Approximately 3,000 temporary employees are employed for the summer season. The organization comprises five operating divisions, with clerical functions centered in the Division of Administration.

### **Division of Administration**

The Division of Administration is responsible for accounting, records, statistics, personnel, and payrolls, and is composed of the following sections: Personnel and Payrolls, Non-Revenue Accounting, Revenue Accounting, Conces-

sions, Cashier, Permits, and General Files and Mailing.

**Personnel and Payroll Section**—Comments and recommendations relating to personnel and payrolls are included in another Report by Barrington.\*

**Revenue Accounting Section**—The Revenue Accounting Section, consisting of 10 employees, controls the issue of tickets and accounts for funds received at the facilities operated by the Department. Approximately 82 reports are received each day from these facilities. The work load is greatly increased from

\*ED. NOTE: See Chapter IX, Section 2.



May until October, although the same number of employees are retained all year.

This section is well supervised. It does not appear that the volume of work would justify mechanization. However, a program of work simplification and integration would eliminate a portion of the clerical work. It would seem advisable to reduce the permanent staff to the minimum required during the off-season months. Temporary employees could be added as required during the peak summer months. The temporary employees could be drawn from students on summer vacations, as a large part of the clerical work would not require experienced personnel. The adoption of the recommendations should result in annual savings of approximately \$8,000.

**Non-Revenue Accounting Section**—This section of 13 employees is responsible for the accounting and auditing of supplies, materials, equipment, contracts, and purchases for the Department. The section is subdivided into the Contract and the Purchase Sections. The Contract Section (6 employees) processes approximately 650 contracts requiring about 4,000 entries per year, 750 miscellaneous vouchers, and 425 open-market orders per year.

The Purchase Section (7 employees) processes and records about 1,500 purchase requisitions and 5,000 stores requisitions each year. About 80 percent of the purchase requisitions are handled in July, August, and September. All records and ledgers are prepared and posted manually. There is a duplication of many of the records; for example, the contract and fund ledgers are maintained in the Comptroller's Office, the Central Office of the Department, and to some extent in the Borough

Offices. The Purchase Unit maintains purchase records that are duplicated in the Borough Offices and in the Department of Purchase.

It is recommended that a program of work simplification and integration be performed in the section to include:

(1) Installing a bookkeeping machine for posting the records maintained by this section.

(2) Designing simplified forms for requisitioning materials. A copy of the requisition should be used as a record in the Borough Offices.

(3) Designing ledgers and other records for use on the bookkeeping machine.

(4) Provision for duplicate copies of ledgers. The duplicate copies should be used for Borough records thereby eliminating the posting of records in the Borough Offices.

(5) Eliminating duplicate records in the Cashier's Office and the Non-Revenue Accounting Section.

(6) Eliminating records of items purchased that are duplicated in the Borough and Central Offices.

The above program should result in savings of \$8,000 to \$10,000 a year.

**Cashier's Office Section**—This section of two employees is responsible for recording cash receipts from the Borough Offices and park facilities. Thirty-eight reports and duplicate deposit slips are received each day. The major portion of the work in the Cashier's Section is performed during the summer months. Many of the records in this section are duplicates of records maintained by the Comptroller's Department. The volume of work in this section would not justify mechanization. However, it is believed that the work simplification programs recommended for the Revenue and Non-Revenue Accounting Sections would reduce the work in the Cashier's Section.



**Concessions Section**—This section is responsible for investigating applicants for concessions, recommending the admission of applicants, and issuing concession permits. The section, in addition, establishes the methods of operations and accounting for the concessionaires; inspects the concessionaires' operation, cleanliness, and conformance to the Park Department's standards; and audits concessionaires' accounts. There are 12 persons in the section including 3 inspectors, 2 auditors, 3 typists, and 4 clerks. There are about 261 concessions. The volume of work does not warrant mechanization. It is recommended, however, that the accounting function be transferred to the Revenue Accounting Section. No additional personnel would be required in the Revenue Accounting Section and the accounting personnel in the Concessions Section would be eliminated. Savings would be \$5,000 to \$6,000 a year.

**General Files and Mailing Section**—The type of work and the volume in this

section would not lend it to mechanization, although the newspaper-clipping service could be accomplished by private clipping bureaus for an estimated 15 to 20 percent of the present annual cost of approximately \$10,000 a year.

**Permits Section**—The 3 employees in the Permits Section issue season permits for golf, tennis, lawn bowling, and model yachts at City-owned facilities, and assign lockers at facilities in Manhattan. Approximately 18,200 permits are issued each year, virtually all of which are issued between April and October, yet the same number of employees are retained all year. The volume and type of the operation does not warrant mechanization. The number of permanent employees should be reduced to minimum off-season requirements. By doing this, personnel savings should approximate \$3,000 a year. Temporary personnel should be employed to meet peak requirements as the function does not require experienced personnel.

## DEPARTMENT OF PURCHASE

The Department of Purchase serves as the purchasing agency of all departments of the City of New York with the exception of the Boards of Education, Higher Education, and Transportation. It employs about 675 persons and operates under the direction of a Commissioner, appointed by the Mayor. There is also one deputy commissioner.

In addition to the Offices of the Secretary, Special Investigator, Priorities and Allocations, and Methods, which operate under the direct control of the Commissioner, there are five operating bureaus under the direction of two directors, two bureau chiefs, and one secretary of the Department of Pur-

chase, all of whom report to the deputy commissioner. These five bureaus are broken down into a number of subdivisions covering the activities of each. Of the five bureaus, the majority of clerical operations center in the Bureau of Stores and the Bureau of Audits and Accounts.

### Bureau of Stores

The bureau is responsible for stores, store records, replenishment of inventories, and receiving and delivering stock. The bureau employs about 368 persons engaged in clerical duties. Purchases amounting to \$15.7 million were handled by the bureau during the fiscal



year ending June 30, 1951. The clerical functions are not mechanized, although tabulated reports prepared by the Bureau of Audits and Accounts are used. It does not appear that mechanization of the clerical functions in the bureau would be warranted.

## **Bureau of Audits and Accounts**

**Fund Accounts Division**—The principal functions of this division center in the examination of every requisition, prior to its final approval, to determine the following: (1) whether all items on requisitions are included in the budget of the department or section making the request; (2) whether there are sufficient funds in the unencumbered budget balance of the requisitioning department to meet payments for materials involved; and (3) whether codes, reference numbers, and approvals are in order. These functions, in principle, are now being duplicated by the Comptroller's Office. It is recommended that the activities of the Fund Accounts Division be discontinued and the functions be handled in the Office of the Comptroller, resulting in an estimated saving of \$59,000 in employee salaries.

**IBM Division**—The division has a staff of 19 persons who operate 27 units consisting of key punch machines, verifiers, sorters, tabulators, interpreters, collators, multipliers, reproducing and gang punching machines. The annual rental of this equipment amounts to \$30,000. The principal function of this division is the preparation of inventory records and reports. There are no plans, schedules, or figures to determine work loads. In the absence of a manual of procedures, or a definitely established work-simplification program, the IBM units have been adapted somewhat arbitrarily to the work to be performed.

It is recommended that an accurate analysis and examination of the work now being done on the tabulating units be made to determine the correct data on work requirements. These figures should show peak loads, idle machine time, and correct percentage distribution of work load.

**Auditing Distribution of Materials** — Requisitions are prepared by various City departments and sent to the Bureau of Stores. When the material is delivered, this bureau secures a receipt from the receiving agency, which is subsequently recorded and filed.

It is recommended that the records of the receiving agencies be examined by the Office of the Comptroller, and reports prepared periodically to avoid possible losses and to insure proper control over the distribution of materials and supplies.

**Purchasing of Materials, Supplies and Equipment**—A review of some of the inventory records indicated that a list of materials involving 676 different items purchased prior to June 30, 1949, have had no withdrawals since this date. These items, now considered obsolete, include fuse blocks, upholstering materials, hose, jacks, bearings, hardware, lacquer, and miscellaneous other materials.

Twenty other inventory accounts picked at random, involving about 193 items purchased prior to June 30, 1949, at a cost of \$11,335, were examined and less than 10 percent have moved since this date. There are indications that the entire balance of 90 percent is becoming obsolete. These items consist of parts for Nelson Loading Units involving lever hoists, worms, levers, links, and miscellaneous other items.

The Division of Analysis has brought some of these matters to the attention of the Bureau of Stores and is now



working with the storekeepers toward adjustment of these conditions. In order to avoid a recurrence, it is recommended that a more clearly defined policy of purchasing be established with particular attention centered on: usage; caution in buying materials in large quan-

ties where heavy depreciation or obsolescence is involved; market conditions; space required; and repair or replacement programs furnished to the Department of Purchase before automotive parts, or material and equipment for other purposes, are purchased.

## OFFICE OF THE COMPTROLLER

The Comptroller is the chief accounting officer of the City of New York. His duties include: (1) auditing and accounting for revenues and disbursements; (2) preparing payment warrants; (3) administering sinking and trust funds; (4) issuing and selling stocks and bonds; and (5) preparing and issuing financial statements. There are six operating bureaus, each supervised by a chief who reports to one of the deputy comptrollers. Employees total some 1,450. The bulk of the clerical functions are centered in the Bureaus of Audit, of Accountancy, and of Excise Taxes. Operations and recommendations concerning improvements in the Divisions of Payroll, Withholding Tax and Pensions, are discussed in another Barrington Report.\*

### **Bureau of Audit and Bureau of Accountancy**

**Divisions of Disbursement and Audit and Examiners**—These divisions are responsible for controlling, auditing, and recording all disbursement vouchers and for preparing payment warrants. There are about 110 employees in the divisions. The divisions use tabulating and bookkeeping machines for a large part of their work. All vouchers are sent to the Division of Disbursement where the information is key punched into tabulat-

ing cards. The cards are used to prepare a voucher register (Form L-246) and a report of vouchers received for the City Register. In the meantime, the vouchers are sent to the Division of Audit and Examiners. The vouchers are audited and a warrant and warrant schedule (Form H-15) are prepared on bookkeeping machines. Five operators prepare 800 to 900 warrants a day, an average of 180 a day for each operator.

The vouchers, warrants, and warrant schedules are sent to the Division of Disbursement where the warrants and schedules are dated manually. The information on the warrant schedule is key punched into tabulating cards. The cards are matched with the voucher cards for control purposes. The cards are then used to prepare a "Document Register" of warrants (Form L-237). These procedures for using the mechanical equipment result in:

(1) Numerous adjustments of records (estimated at approximately 2,000 a month); the auditing of vouchers after the preparation of the voucher register, which is the underlying reason for the numerous adjustments.

(2) Duplication of records.

(3) Unnecessary handling of vouchers causing delay in payments to vendors and an unnecessary number of controls.

(4) Excessive clerical and machine operator time.

\*ED. NOTE: See Chapter IX, Section 2.



(5) Use of two types of equipment causing excessive costs and loss of benefit from work already being performed on tabulating equipment.

Each bookkeeping machine operator prepares an average of 180 warrants a day. Private industries' standard is, generally speaking, 125 to 135 checks (warrants) of this type an hour.

The verifying machine operators are permitted to be exceptionally lax in their work. On several occasions the operators were observed to put their approval of verification stamp on documents without having verified the work. This insubordination defeats the purpose of verifying equipment and, consequently, permits errors in records.

The integration of the divisions is recommended. Following the integration, a program of work simplification should be undertaken to include:

(1) The auditing of all vouchers prior to processing on tabulating equipment, thereby virtually eliminating the adjustments.

(2) The elimination of the bookkeeping machines by processing the checks on tabulating equipment.

(3) The processing of one tabulating card from the information on the audited voucher; this card should be used to prepare the voucher register, warrant, and warrant register, consecutively; control totals would be established by the Division of Audit and would be used by the tabulating section during the process.

(4) The simplification of the voucher number and the check number system; they should carry the same number and the warrants should be numbered as part of the tabulating process.

It is estimated that the reductions in clerical key punch operators, as well as machine and operators' time, resulting from the application of these recommendations would amount to more than \$35,000 a year.

**Division of Stocks and Bonds**—This division acts as a registration agent for the Comptroller, issuing, recording, and paying stocks and bonds for the benefit of the City. Approximately \$45 million is paid out each year, requiring 25,000 checks. More than 3,000,000 coupons are handled each year. The operation of issuing, recording, transferring, and paying of bonds is a combined manual and mechanized method. At least 24 different forms are used, exclusive of ledgers. The majority of the records are hand posted. The bookkeeping machines are used to prepare checks and check registers.

The use of tabulating equipment is recommended for the recording and paying of registered bonds. The recording of coupon bonds should be performed on the bookkeeping machines. A program of work simplification should be completed before using tabulating equipment or expanding the use of the bookkeeping machines for records pertaining to the coupon bonds. The program should result in a reduction of the number of forms used. It should provide also for preparing the work to fit the type of equipment proposed. For example, the registered bond information should be prepared so that tabulating cards can be easily and quickly key punched. The cards should be used for preparing a bond register, bond record card (ledger), transfer lists, checks, records of amounts payable at due dates, and statistics. The work recommended for mechanization on bookkeeping machines could be performed on existing equipment. The adoption of the above recommendations should produce an annual savings approximating \$15,000.

**Division of Receipts**—This division audits the duplicate summary cash sheets sent in by the various agencies.



The amounts are manually balanced with the records of cash deposited with the Treasurer's Office. An accounts receivable ledger is also maintained by the division.

Approximately 20 employees audit the cash sheet summaries. Tabulating cards are key punched from the summary cash sheets and are used to prepare a daily summary of deposits. The daily run contains the same information as the summary cash sheets. The daily cards are summarized on monthly reports.

Accounts receivable are established upon the advice of the agencies. There are no internal controls to indicate that all advices are received and recorded in the Comptroller's Office. It is possible, for example, that a dock may be leased and rents collected without the knowledge of the Division of Receipts. The accounts receivable ledgers are memorandum ledgers and are hand posted by 10 employees. There are about 15,000 accounts. Ten persons post approximately 12,000 items per month.

The manual audit of the summary cash sheets should be eliminated. The audit would be accomplished by using the daily tabulation totals to balance with the agency totals and the amounts of cash deposited with the Treasurer.

The accounts receivable ledgers should be posted on individual cards by means of bookkeeping machines. The amounts posted could be accumulated and compared with the amounts on the summary cash sheets for further control. The posting operation could be performed by two employees on bookkeeping machines. Additionally, it is suggested that a study of auditing methods be made to insure adequate internal controls. It is believed that more than \$15,000 a year could be saved through the adoption of these recommendations.

**Division of Refunds**—This division preaudits refunds to be made by the City, prepares vouchers, and records payments for workmen's compensation and for the purchase of property (public improvements), and prepares registers of redeemed bond coupons. Approximately 18,000 vouchers are processed each year. The vouchers contain an average of 9 entries. The refund vouchers, the majority of which are refunds of plumbers' deposits, are preaudited by 8 employees. The preparation of vouchers and records for workmen's compensation and for the purchase of property is performed by 3 employees. The registration of redeemed bond coupons is prepared by 5 employees on a Powers tabulator, 2 sorters, and 4-card punching machines. The machines are approximately 20 years old, but are adequate for the registration operation.

Here there are several unrelated operations performed by relatively small numbers of personnel. For this reason, it does not appear advisable to mechanize the division further at this time. It is suggested, however, that consideration be given to adopting a uniform plan for preparing refunds of plumbers' deposits. At the present time three Boroughs prepare their vouchers and checks and send them to the Comptroller's Office. The other Boroughs prepare only the vouchers and send them to the Comptroller's Office for check preparation. It is usually the Comptroller's responsibility to prepare checks. Consideration should be given also to eliminating the registration of bond coupons. The Division of Refunds is registering the coupons redeemed between 1942 and 1949. (Current coupons redeemed are being registered in another division). Apparently there is virtually no reference to the older coupons. The coupons should be filed in



numerical and chronological sequence for easy reference.

### **Bureau of Excise Taxes**

The bureau is responsible for auditing the records of payers of excise taxes, including the Sales Tax, Gross Receipts Tax, Utility Tax, Compensation Use Tax, Conduit Tax, Hotel Tax, and Parimutuel Tax. These taxes are paid to the tax collectors and the tax reports are forwarded to the bureau for auditing. Approximately 500 persons are employed to process 1,000,000 tax returns a year. Following the audits, the returns are filed by payer. Every return ever made by a taxpayer is maintained by the bureau. The files are in one-tier four-drawer file cabinets. The cabinets occupy about 12,000 sq. ft. of floor

space. The City pays an annual rental of approximately \$42,000 for the file space.

Most of the employees are engaged in auditing the tax returns, and it does not appear advisable to mechanize the auditing function.

A program for microfilming the tax return records should be established. Current returns should be filmed after the audit is completed. A study should be made to determine if it is possible to eliminate any of the prior years' returns.

The completion of these recommendations would reduce space requirements by about 95 percent, provide a convenient method of reference for the auditors, and effect savings of approximately \$35,000 a year.

## **FIRE DEPARTMENT**

The bulk of the clerical functions in this Department is centered in the Division of Fire Prevention and Combustibles, Division of Finance and Supply, Bureau of Fire Investigation, and Bureau of Fire Alarm Telegraph.

### **Division of Fire Prevention and Combustibles**

The principal clerical functions in this division are concerned with the handling of permits, which involves property inspection reports, permit preparation, collections and recording of fees. The survey and recommendations concerning this division have been made by the consulting firm of Worden & Risberg. As a result, no further studies of this division have been a part of this survey.\*

\*ED. NOTE: See Chapter VII, Section 1.

### **Division of Finance and Supply**

The responsibilities of this division include:

(1) *Payrolls*—Comments and recommendations concerning the payroll functions have been made in another Barrington Report.\*

(2) *Fund Accounts*—The functions relating to these accounts center principally in the examination of all requisitions to determine:

(a) Whether materials requested are included in the Department budget.

(b) If there are sufficient funds in the unencumbered budget balance to liquidate the expenditure.

(c) If the codes, reference numbers, and approvals are in order.

The functions contained in (a) and (b) above are duplicated, in principle,

\*ED. NOTE: See Chapter IX, Section 2.



in the Comptroller's Office. As these functions are generally considered to be the Comptroller's responsibility, it is recommended that they be discontinued here. This would reduce the operating expense in this division approximately 20 percent in personal service not including space, supplies used, and other miscellaneous expenses. The personnel savings would amount to approximately \$20,000. Because of the limited scope of the other clerical functions in this division, mechanization would not be warranted.

### **Bureau of Fire Investigation**

The bureau is responsible for investigating the causes of all fires in the City. Fires of suspicious nature are investigated thoroughly with the objective of prosecuting guilty persons. Reports of investigations are prepared and permanent fire records are maintained. More than 44,000 reports were made during

the past year by approximately 27 fire marshals. It appears impractical to mechanize the processing of the diversified clerical work and reports in this bureau.

### **Bureau of Fire Alarm Telegraph**

The bureau is responsible for receiving and transmitting fire alarms, maintaining the alarm systems, and planning for changes in the alarm systems. There are approximately 260 civilian and 67 uniformed employees in the bureau. The following divisions operate as parts of the bureau: Division of Engineering, Radio Division, Division of Maintenance, Administration Division, and Division of Operations. The Administration Division and the Bureau of Operations perform most of the clerical operations in the bureau. The clerical operations are of a diversified type and low volume so that mechanization would not be warranted.

## **POLICE DEPARTMENT**

High-volume clerical operations are found in the following six areas: Chief Clerk's Office; Bureau of Audits and Accounts; Bureau of Criminal Identification; Statistical, Correspondence, and Records Bureau; Bureau of Information; and Bureau of Lost Property.

### **Chief Clerk's Office**

The Chief Clerk's Office is responsible for all personnel functions and personal service budgets in the Department. No mechanization is recommended.

### **Bureau of Audits and Accounts**

This bureau has approximately 25 persons handling pension payments, payroll summarizing, accounting, and

cashier's operation. One section processes the necessary papers for the payment of pensions to retired members and widows of the Department. Checks and payrolls are prepared on Addressograph machines. The equipment is old but the system followed is simple and efficient. The summarizing of payrolls and the distribution to the proper budget line code are handled by two people. The work is performed manually and is not a full-time operation. The cashier's operation is a small one and takes the time of one person, collecting funds and making the necessary cash book entries. All fund ledgers for personal service and other-than-personal charges for the Department are maintained in this bureau. It is a manual operation.



## Bureau of Criminal Identification

This bureau is responsible for maintenance of the fingerprint and photograph files of the Department. A special study of these records was made by another survey group under the Mayor's Committee.\*

## Statistical, Correspondence, and Records Bureau

Most of the statistical work is performed on IBM tabulating machines. A card is punched for each complaint from the record sent in by the precinct headquarters. A similar card is punched from the disposition report. The two cards are merged, and the resultant card provides a complete history of the case. From this record, three statistical reports are prepared: *Monthly State Report* showing by Borough the number of cases handled and the number opened and closed during the month; *FBI Report* prepared monthly, classifying the felonies reported by crime category number; and *Weekly State Report* listing crimes by category, by Borough, by precinct.

Beginning October 1, 1951, a procedure similar to that outlined in the foregoing was started for arrest reports. At present, all arrest statistics are prepared manually. Another new system has been started which consists of punching an IBM card for each summons processed by the Traffic Summons Control Bureau. This will facilitate the processing of the summons record and the corresponding statistics. This bureau is also responsible for maintaining correspondence files and the complaint report file. These files are cross-indexed by name and number.

## Bureau of Information

This bureau maintains three card files: (1) automobile registration file for all cars, buses, and trucks registered in the City; (2) alphabetical file for chronic lawbreakers; and (3) alphabetical file of summons and arrest cards.

These files are cleared about once a year and the cards sent to a record storehouse where they are kept indefinitely. When a disposition report is received, the disposition information is copied on the record card. If the card has been sent to the record storehouse, the disposition report must follow and be copied at that location.

## Bureau of Lost Property

The precinct sends to the bureau a "squeal" card which is a report of lost property. Every pawnbroker in the City is required to send in daily a description slip for each item pawned. All slips and cards are collated and if a pawnbroker's slip appears to match a "squeal" card, the cards are turned over to a detective in the pawnbroker's precinct and the investigation is carried on at that location. Approximately 30 men work in this bureau with each man assigned to a particular item or group of items.

## Summary and Recommendations

In the course of this survey, one problem stood out above everything else in all of the sections visited, and that was the massive files created and maintained indefinitely. A police department necessarily will have large files. But after recognizing this inherent problem, every effort must be made to keep the number of records as small as possible, consistent with efficient operations. Once these numerous records

\*ED. NOTE: See Chapter XIX, Section 1.



reach their final resting place in a records storeroom, they remain there indefinitely. No written program for records retention is in existence. Forms now used should be studied in order to eliminate duplication of information and to reduce the number of reports needed. A definite program for records retention, as well as for microfilming of the retained records, should be established. This program should outline in detail what records may be destroyed immediately on reaching the records storeroom, the length of time the remaining forms must be kept, and the microfilming procedure to be followed.

A strip index file should be installed for the alphabetical index and shield index maintained in the Chief Clerk's Office. An installation of this type would save needed space and facilitate reference to these files. The method of maintaining the official Document File should be simplified. A simple alphabetical file is sufficient and would eliminate the present alphabetical index that, in turn, leads to the file number. The folders used to file fingerprint records in the Bureau of Criminal Identification should be changed. The present binder held with a strap and buckle is heavy and cumbersome to use. A heavy

envelope-type folder would be sufficient to preserve the prints and would require considerably less filing space. The system of producing on IBM the statistical reports for arrests should be enlarged. Once the card is punched, all necessary reports can be easily and quickly produced. This procedure should save a minimum of \$18,000 a year.

A photo-copy machine introduced at a recent business equipment show should be investigated. At the time of this Report, the machine had not been tested commercially. It appears, however, to have a good potential for use in photo-copying the summons and arrest cards in the Bureau of Information. The equipment is semi-portable; it photographs card stock and produces a positive copy in about one minute. Savings resulting from its use could be approximately \$35,000 a year.

The function of the Lost Property Bureau should be mechanized on tabulating equipment. A tabulating card can be punched for each "squeal" card and pawnbroker's slip, and the two cards collated. The articles can be coded by type and description, and lists prepared for the detective by precincts. A system of this type should save \$50,000 a year over the present method.

## BOARD OF ESTIMATE

The Bureau of Retirement and Pensions presents the best opportunity for savings through mechanization. This bureau has 200 employees, of whom 65 are paid by the Board of Transportation. The bureau consists of the Actuarial Section, Computing Section, and the Posting Section. The Actuarial Section calculates rates and amounts of contributions and benefits for five City

retirement systems. The Computing Section's main function pertains to member loans, including application, calculation, and accounting. The Posting Section maintains records for 112,000 members of the New York City Retirement System.

The activity in the Computing and Posting Sections is both continuous and repetitive. The function of loans is a



steady process with 2,000 applications monthly and 25 percent of the members having loans. On the other hand, pension payments like payrolls occur periodically each month. Approximately 7,700 checks are prepared by the Central Payroll Division for retired members of the New York City Retirement System.

It was noted during observations of the Posting Section that records for February, 1951, were being posted in *September, 1951*—a lag of 7 months. A

group of 40 operators were engaged on typewriter-bookkeeping machines posting to employee's ledger cards. This system has been used since 1940 with no appreciable changes. Various improvements have been made in other phases of the work, but it appears that an integrated plan for mechanization can be accomplished.

Comments and recommendations for savings in this bureau are covered in the survey of the payroll system, separately reported in Section 2.

## DEPARTMENT OF MARINE AND AVIATION

There are approximately 1,500 employees in the Department, with less than 100 persons engaged in clerical activities. The operations are divided among five bureaus.

### Bureau of Administration

This bureau was studied in detail as it contains the greatest concentration of clerical activity.

**Division of Accounting**—The Accounting Division is responsible for the IBM Tabulating Section, for the billing and collection of revenues, the follow-up of delinquent accounts, the disbursement of funds, and the audits. The tabulating equipment is used to prepare bills for wharfage fees and dock rentals. The appropriate ledger cards are also posted on the machines. Three employees operate six pieces of tabulating equipment. The machine rental is about \$8,700 a year and is operated approximately 25 percent of available time.

**Division of Personnel**—The Personnel Division handles all personnel functions, such as the procuring of new employees, the obtaining of budget certificates, and the maintenance of personnel records. A separate unit of this

division performs the payroll work for the Department, processing personnel change notices, balancing payrolls, and maintaining individual earnings records.

**Division of Procurement**—The Division of Procurement is responsible for all purchasing for the Department and the operation of the store rooms at the various Department locations.

**Division of Office Services and Maintenance**—This division was not studied because its main clerical function is the operation of a correspondence and files section.

### Summary and Recommendations

In order to obtain maximum benefits from existing tabulating equipment, the expanded use of the equipment is recommended. The following work should be prepared on the tabulating equipment:

- (1) Accounting (other than preparing bills for wharfage and dock rentals).

- (2) Budget control for personal service.

- (3) Stores records now maintained by the Procurement Division.

- (4) Delinquent account notices.



The transfers of work recommended should save an estimated \$20,000 a year in personal services. Unless additional work is transferred to the tabulating equipment, the use of the machines is

not practical and should be abandoned. The installation of a bookkeeping machine would adequately perform the billing operation at reduced cost.

## DEPARTMENT OF HOUSING AND BUILDING

There are approximately 1,100 employees working in the Department of Housing and Building, which comprises two main divisions, the Division of Buildings and the Division of Housing, and three bureaus, the Inspection Bureau, the Bureau of Records, and the Bureau of Smoke Control.

High-volume clerical operations exist in the Boiler and Licensing Section of the Central Office, the Sign Permit Section of the Borough Offices, and the Inspection Section of the Borough Offices.

### Boiler and Licensing Section

Each year in advance of the boiler inspection date, the tickler cards are used to prepare the list for inspections due the following month. A post card is mailed to the owner giving him the date and time of inspection. In 1950 about 35,000 boiler inspections were made and 53,000 boiler certificates were issued. The Central Administrative Office handles the initial licenses and the renewal licenses of the stationary engineers. The Civil Service Commission is responsible for examining the engineers and, when certified, the Boiler and Licensing Section issues them the license. The license must be renewed each year. The licenses (about 11,700 in 1950) are written by hand.

### Sign Permit Sections

Permits for illuminated signs must be obtained at the time of installation

and then renewed yearly. This work is handled in the Borough Offices. Three card records are maintained of the sign and the owner. Permits are written by hand, about 17,000 a year in all Boroughs.

### Inspection Sections

The largest operation in the Borough Offices is the handling of inspections and complaints. In 1950, the Division of Housing handled 133,000 violations, and 350,000 inspections were made by approximately 238 inspectors. In the same period the Division of Buildings with about 293 inspectors made 466,000 inspections and processed 22,000 violations. An operation of this size involves a great amount of paper work and record keeping.

### Summary and Recommendations

The main problem in the Boiler and Licensing Section would seem to be that of producing forms in the simplest manner. It is recommended that addressing equipment be used for this operation. A file with a plate for each stationary engineer could be maintained and kept current as additions and cancellations occur. Each plate would contain name, address, and month of renewal. Prior to the month of renewal, the bills and the licenses would be prepared from the file of plates. As soon as the money is received, the license would be mailed immediately or given to the engineer if payment was



received over the counter. In addition, it is suggested that the forms be redesigned for use with window envelopes.

Addressing equipment is also recommended for use in the boiler inspection and license operation. Each addressing plate would contain the name and address of the owner and the boiler number. The list of inspections due for the inspector would be run from the plates. The bills and licenses would be prepared in advance. It would not be necessary to make a duplicate of the bill as the license itself would serve as notice of an unpaid bill.

The issuing of sign permits in the Borough Offices could be handled with addressing equipment. The bills and permits would be prepared in the Central Office and distributed to the five

Borough Offices in advance of the renewal date. This should result in savings of \$15,000 to \$20,000 a year by eliminating the preparation of lists, bills, licenses, and permits by hand.

The number of files maintained by the inspection sections of the Borough Offices should be reduced. It is recommended that a large folder be used for each building under the jurisdiction of the Department. The cover of the folder would contain sections for all the basic information now posted to the description card—the building fire record, the building ownership card, and the violation record. The inside of the folder would contain the necessary correspondence papers. A system of this type should result in savings up to \$40,000 a year throughout the Borough Offices.

## DEPARTMENT OF WELFARE

There are more than 8,000 employees in the Department of Welfare. Most clerical operations are performed in the Bureau of Finance and Statistics and the Bureau of Welfare Administration.

### Bureau of Welfare Administration

This bureau operates various public assistance programs. These programs are carried on through 18 welfare centers located in strategic areas of the City. About 10,000 cases are on the rolls of the average welfare center. The welfare centers investigate applications for assistance, pass on the eligibility of most applicants and determine the type of assistance to be given. Periodically recipients of assistance are investigated to determine if there is an unreported change in status. There are about 4,600 employees in this bureau, of whom approximately 2,200 are social workers.

A program of mechanization has been introduced in the welfare centers. The purpose of the program is to relieve the social workers of clerical functions, strengthen the internal controls, and to improve clerical efficiency in general. It is planned to have 6 tabulating centers strategically located so that the work loads of the 18 welfare centers will be evenly distributed.

The operations of the "pilot installation" in the Melrose Welfare Center have been reviewed, and it was found that the type of equipment is appropriate for the work to be performed. Until State approval is obtained, the operations are being performed on a parallel with the manual system. There is, however, evidence that further steps can be taken to realize all the advantages that could be obtained from the equipment—for example:



(1) There was no program of work simplification in the welfare centers prior to the installation of tabulating equipment. The equipment has been adapted to the work to be performed instead of the work program first being simplified and adapted to mechanical methods.

(2) There is no plan for integrating similar functions in the welfare centers. Work of the statistical units of the welfare centers is duplicated in the Division of Statistics.

(3) Work loads for each of the welfare centers have not been determined. As a consequence the number of machines and installations required have been somewhat arbitrarily resolved.

### Summary and Recommendations

It is recommended that a program of work simplification and integration be completed before further installations of mechanized equipment takes place. The completed program should:

(1) establish control of expenditures for the aid programs; (2) obtain substantial additional savings in clerical personnel; (3) relieve the social workers of clerical functions, thereby reducing the number of social workers required; (4) prepare work in a manner best adapted to tabulating methods; (5) establish work loads for the tabulating equipment; and (6) provide a constant and even flow of work.

In place of the six tabulating centers presently contemplated, the creation of one Central Tabulating Unit is recommended. The principal goals in planning the six units were the maintenance of proper controls and the flexibility for providing prompt information to the welfare centers. It is believed that neither of these benefits would be sacrificed by establishing the one central unit, but that additional benefits would be obtained, such as: increased flexi-

bility in using machine equipment; increased flexibility of manpower utilization; minimized machine requirements; reduced requirements for operators and supervisors; minimized possibility of unnecessary work being created in isolated areas; and uniformity of operations. It would be advisable, under a centralized tabulating program, to install key punch and verifying equipment in the welfare centers. The tabulating cards would be prepared and verified in the centers and sent to the Central Tabulating Unit for processing. The creation of a Work Scheduling Unit is recommended in order to eliminate bottlenecks and to provide for the equitable processing of the work.

It is believed that savings of more than \$22,000 a year could be obtained by establishing one centralized tabulating unit and adopting the related recommendations.

### Bureau of Finance and Statistics

The bureau is organized into two divisions, the Division of Accounting and the Division of Statistics.

**Division of Statistics** — The division compiles, analyzes, and distributes statistical information relating to the activities of the Welfare Department. Tabulating equipment is used to reproduce, collate, and compile the statistical information. Reports are prepared and typewritten or reproduced on duplicating equipment.

The type of equipment used to prepare the statistical information is adequate for the work performed. However, the present methods of compiling activity statistics are expensive. The statistics are not prepared in a manner that is best adapted to tabulating equipment, thereby resulting in increased costs for machines. There are, in addition, indications of incomplete



planning for realizing the full advantages obtainable from tabulating equipment. There is also evidence that parts of the statistical reports have outlived their usefulness to those persons primarily concerned.

**Summary and Recommendations**—It is recommended that the following steps be taken in the sequence indicated:

(1) Only those operating statistics that would be valuable as guides to management in making policy decisions and in the administration of the Department should be selected.

(2) A review of the statistics required for reports other than for management should be made, and only the statistics considered necessary should be prepared. A review should be made periodically, possibly once a year, in order to eliminate or add essential reports or parts thereof.

(3) The information required for preparing the necessary statistics should be integrated with the program of work simplification previously recommended in the Bureau of Administration. This action would eliminate duplication of effort and would provide source documents designed for use with tabulating equipment.

(4) The processing of statistics should be included in the Central Tabulating Unit recommended above for the Bureau of Administration.

Savings in excess of \$20,000 a year should be realized upon completing the recommendations. Pertinent operating data would, in addition, be provided for the use of the operating officials.

**Division of Accounting**—The division will account for expenditures for administration and welfare grants approximating \$169 million for this year. Approximately 161,000 cases are receiving public assistance, and 375,000 checks are prepared and distributed each month. The Federal and State governments provide financial assist-

ance in most of the welfare programs. The division will prepare claims for reimbursements this year, amounting to about \$127 million. The volume of work and the complicated mathematical formulas required for determining the amounts of State and Federal financial participation in the various welfare programs necessitate an organization of considerable magnitude. The division consists of 13 sections employing approximately 530 employees.

A program for mechanizing work in the sections has been under way for a few years. Most of the mechanization programs have been well planned and executed. However, as has been evident in other areas of the Department, the program has not been extended far enough. The Disbursing Section and a portion of the Medical Audit Section have been mechanized in a sincere effort to economize and facilitate the processes required in these sections. The tabulating equipment is satisfactory for the operations in the Disbursing Section, but an analysis of the work load indicates 21 percent more equipment on hand than is required for processing this work. In the Medical Audit Section, it was found that two different types of machines are used for related operations. As a consequence, full benefits are not being obtained from either type of machine. There is a considerable amount of cumbersome matching operations, passing of work papers back and forth, and duplicated controls, resulting in unnecessary expense and delays. The section is more than six months behind in paying invoices.

The State Claims Section prepares claims against New York State for the State and Federal financial participation in the welfare programs. The operations are marked by: (a) manual



posting of an accounts receivable ledger; (b) preparation of claims (Form W-242) on typewriters; and (c) the posting of claim ledgers (Form W-243) on bookkeeping machines. All records of expenditures and income relating to the operations of the welfare programs are used by the State Claims Section.

**Summary and Recommendations**—The functions of the Disbursing and Medical Audit Sections are similar and should be combined into one unit employing tabulating equipment for preparing checks and distributing expenses. It appears desirable also to use tabulating equipment for matching invoices with the authorizations for medical care, and for preparing a check and remittance statement for the vendors.

In order to eliminate excess equipment as indicated by the work load analysis and to allow for equitable scheduling and processing of work, the establishing of a Work Scheduling Unit is recommended. The functions of the

unit should be to plan for an even flow of work to the equipment, determine the machine capabilities required to handle the flow of work, and provide for equitable processing of the work load. Savings of about \$25,000 a year should be realized upon completing the recommendations.

Bookkeeping machines should be installed in the State Claims Section to be used for the posting operations. The posting of the claim ledger, accounts receivable ledger, and claims to the State should be prepared simultaneously.

It is also recommended that bookkeeping machines be used to post the ledgers in the Appropriation Accounts Section. The appropriation accounts should be posted on individual ledger cards. These recommendations would eliminate manual posting operations, eliminate double posting, and reduce requirements for clerical personnel. Savings of approximately \$12,000 a year should be realized upon completion of these recommendations.

## A CENTRAL AGENCY

It is recommended that a central agency such as the Division of Analysis be assigned the responsibility for controlling office equipment. Its responsibilities would include: maintaining records of equipment; showing purchase price, annual rate of depreciation, repair costs, rate of usage, and condition

of equipment; approving the type of equipment for the work to be performed; studying rates of usage so that worn equipment can be placed where it is infrequently used; and establishing a central pool of equipment such as typewriters and adding machines.

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## SECTION 4

# ACTION OF THE MAYOR'S COMMITTEE

### Department of Finance

(1) The Report by Barrington Associates was subjected to detailed analysis by the Department of Finance and by the Division of Analysis of the Bureau of the Budget, and discussed in meetings of representatives of those departments, the engineers, and members of the Mayor's Committee. Plans for further mechanization as prepared by the Department were offered as alternatives to certain of the basic suggestions made in the Barrington Report, especially with respect to the proposal by Barrington to use the combination addressograph and punch-card equipment, and prepunched cards as tax bills. The recommendations below are made in the light of widely differing opinions on various phases of these highly technical matters.

(2) We fully appreciate the responsibility felt by those in charge of collecting and accounting for hundreds of millions of dollars of City revenues. Therefore we go on record as not advocating any action not based on thorough investigation and closely controlled tests. However, we are of the opinion that the Report of the engineers shows opportunities for substantial economies through further mechanization in the activities of the Finance Department and related departments studied, and we call for a detailed appraisal and test of the Barrington suggestions, in addition to the alternative plans which have been developed by the City departments involved.

(3) In view of the special qualifications of certain of the personnel of the Division of Analysis of the Bureau of the Budget in regard to office machine part installations, and in view of the impartial position of that division with respect to advocacy of any particular system, we recommend that the Division of Analysis, working directly with the staff of the Finance Department, be given the responsibility for the thorough review and test program required to take advantage of the latest practices and equipment in the Finance Department and related operations. Accordingly, it is recommended that the Barrington Report be transmitted to the Analysis Division, together with pertinent documents prepared by the Finance Department, and that the review be undertaken immediately.

(4) If outside help is needed in detailed planning for installation in order to move forward promptly, it is recommended that a contract be entered into with Barrington Associates, Inc. to render this type of engineering service. The Mayor's Committee, however, expresses confidence in the competence of the Division of Analysis in this field.

(5) While the use of mark-sensing equipment and of certain types of addressograph equipment has been questioned by the Finance Department, we specifically recommend that the advantages of these types of equipment and procedures be analyzed thoroughly, in view of the strong recommendations of the engineers. In this connection, dis-



cussions with the manufacturers should be entered into, leading toward trial applications of the new equipment at no cost to the City.

(6) We recognize that definite advantages in internal procedures can accrue from the use of tabulating cards as tax bills. In view of recent successful use of punch cards in billing by Federal and State governments and by public utilities, we feel that the possibilities should be thoroughly investigated for New York City. In this connection, discussions should be entered into with banks and other institutions holding real estate mortgages to determine under what conditions properly marked punch cards would meet their needs as tax receipts.

## Payrolls

(7) The Barrington Report contains three major recommendations having to do with general payroll policy independent of changes of routines, consolidation of operations, and further mechanization. These major recommendations, with advantages in economy of operation fully set forth in the Report, cover: (a) a delayed payroll system for all City-wide semimonthly payrolls; (b) splitting the semimonthly payroll into two parts—so that one group of employees will be paid in the first week and the other group in the second week—and making the semimonthly payroll actually a biweekly payroll with 26 periods instead of the present 24; and (c) payday for both the biweekly and weekly payrolls on Friday, with staggered payday by Borough groups for the Sanitation payroll. We endorse these moves in principle, but agree with the responsible City officials with whom they have been discussed that timing is

of paramount importance in effecting them, and that such innovations as delayed payroll must be introduced gradually, perhaps picking up a day at a time for a series of pay periods, in order to avoid hardships to employees. We also caution that “public relations” with respect to such changes are extremely important, and that great care must be exercised in communicating to employees a full explanation of every move taken, and exactly how it will affect the amounts of their paychecks.

(8) With respect to the merging of certain units in the Central Payroll Division, Withholding Tax Division, Paymaster's Division, and certain operations now performed in the Civil Service Commission, the use of tabulating cards as paychecks, and the proposed machine installation, the Mayor's Committee takes the same action as indicated in paragraphs 3 and 4 above, namely, that trial installation and related procedural changes be worked out under the direction of the Comptroller's office and the Division of Analysis of the Bureau of the Budget. Again we emphasize that the high-speed equipment advocated by Barrington be analyzed thoroughly, with trial applications arranged for with the manufacturers.

(9) In connection with matters discussed in paragraphs 7 and 8 above, we recognize that, partly as a result of the Barrington studies, the Central Payroll Division of the Comptroller's Office has itself made extensive investigations into general payroll policy and maximum use of modern equipment, and that some of its ultimate proposals would result in significant economies. These conclusions of the division should, of course, be taken into consideration by the Division of Analysis in developing final installation plans.



## **Selected City Departments**

(10) We consider the Report on the selected City departments as essentially exploratory, indicative of the directions in which the City can proceed in connection with increased mechanization; and accordingly, we make the same recommendation with respect to it as in paragraphs 3, 4, and 8 above. However, we call special attention to the recommendation in this Report that a central agency such as the Division of Analysis be assigned the responsibility for controlling office equipment, approving

types of equipment, studying rates of usage, establishing a central pool of equipment, keeping in touch with new equipment developments, and the like.

## **Savings**

(11) In view of modifications in the final installation, the Mayor's Committee does not accept literally the specific savings mentioned in the Reports, but we are confident that substantial savings of the general order of magnitude indicated can be achieved by means of the vigorous follow-through here advocated.

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## CHAPTER X

# Fuel Consumption

### EDITORIAL NOTE

The study on use of fuel was conducted by Percival R. Moses & Associates, with Dean Mario C. Giannini of New York University as special advisor to the Committee on the study and on collateral questions. The study covered 20 departments, boards, and authorities which operate heating, power, and special purpose plants for the City. As stated in the contract, this engineering study was intended to "develop ways and means of increasing the efficiency of the combustion of fuel in City-operated plants, and of securing the most economical utilization of steam for heat, hot water, cooking, sterilizing, laundry, and similar purposes." Important exclusions were analyses of purchased vs. generated steam, or wasteful use of purchased steam; study of apartments or commercial incinerators relative to smoke violations or fuel consumed; advisability of isolated plant vs. central service; study of plants of the Board of Transportation; and study of installations at Bellevue Hospital.

The final Report consists of 21 volumes—one volume for each of the departments, boards, and authorities surveyed, and one over-all Report of 109 pages, which summarizes findings for the entire study. The 20 departmental Reports cover the following:

Each of the five Borough Presidents' Offices.  
Department of Correction.



Board of Education.  
Fire Department.  
Department of Health.  
Board of Higher Education.  
Department of Hospitals.  
New York City Housing Authority.  
Department of Markets.  
Department of Marine and Aviation.  
Department of Parks.  
Police Department.  
Department of Public Works.  
Department of Sanitation.  
Department of Water Supply, Gas and Electricity.  
Department of Welfare.

Only the over-all Report is digested in Section 1 of this chapter. This Report gives a broad picture of conditions in each of the above departments, together with, in many cases, special recommendations over and above the general recommendations covering all operations. Action of the Committee is given in Section 2.

The departmental Reports are divided into three sections. The first five pages of Section I are uniform in all Reports, and outline the purpose and scope of the investigation. Following this, there is a statement of "Present Conditions" in the department, and an analysis of the types, quantities, and values of fuels burned during 1949-50. The last portion of Section I in each case contains estimates of savings to be made and investments required. Section II of the departmental Reports contains analyses of the individual plants or groups of plants visited, and gives specific recommendations. In those plants intensively surveyed, the results of combustion efficiency tests are included.

In all departmental Reports, except as noted below, Section III is uniform. It outlines the method used in conducting the survey, the probable method of financing the recommended changes, general recommendations for boiler plants, and a discussion of heating system controls.

Because of their importance and special operating problems, some deviations from the foregoing have been made with respect



to the Board of Education, Board of Higher Education, Department of Hospitals, New York City Housing Authority, and the Department of Marine and Aviation.

In the following digest of the over-all Report, certain technical discussions, tabulations, and secondary considerations have been eliminated for brevity. The reader is directed to the over-all and departmental Reports for further details.

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## SECTION 1

# ECONOMY IN FUEL USE

BY

PERCIVAL R. MOSES & ASSOCIATES

This engineering study was intended to develop means of increasing the efficiency of the combustion of fuels in City-operated plants; of securing the most economical utilization of steam for heat, power, and auxiliary purposes; and of using labor more efficiently in connection with the burning and handling of fuels and the delivery of steam. The last-named was to be achieved through more careful operation of existing combustion apparatus and more careful selection and use of fuel; use of additional combustion instrumentation and controls; repairs, changes or additions to existing combustion equipment; and installation of control systems or devices to effect better heat utilization. Comments and recommendations were to be made also with respect to stack discharges. Not less than 40 nor more than 60 plants were to be surveyed for the purpose of determining conditions of the

apparatus by inspection and consultation with operating personnel.

The total fuel use in plants covered by this survey was to be not less than \$2,250,000. Certain of these plants received tests required for determination of the efficiency of combustion; that is, the engineers performed actual combustion tests, including Orsat analyses, measurement of flue gas temperatures, draft readings, etc.

The specifications were intended to provide an engineering survey and report on a selected group of plants which would constitute a fair sampling of the entire number of heating plants in buildings owned and operated by the City.

Definite recommendations of changes to be made in fuel or equipment and the determination of the cost involved were to be made on the basis of such sampling.

Specifically excepted from this survey were the following: analyses of purchased vs. generated steam in buildings now generating steam, or of wasteful

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Digest from "Study and Recommendations on Fuel Use and Utilization by the City of New York," by Percival R. Moses & Associates, February 15, 1952.



operation with purchased steam; apartments or commercial building type incinerator operation relative to smoke violations or fuel consumed; the relative advisability of isolated plant vs. central station service; any plans or specifications or work required other than

sketches illustrating the work to be done and a schedule of such work; internal inspection of equipment or a complete inspection of heating systems, radiators, etc.; study of plants of the Board of Transportation; and study of any installations in Bellevue Hospital.

PRESENT CONDITIONS AND SURVEY FINDINGS

Plants and Fuel, 1949-50

The 20 departments, boards, and authorities falling within the scope of this survey reported 2,371 plants in operation during the full fiscal year 1949-50. These plants *burned* \$8,361,464 worth of coal and oil and during the same period *purchased* \$8,702,287 worth of coal and oil. In addition, \$780,470 was expended for the purchase of steam and gas for heating. Thus the total cost of fuels and heating services during that period was \$9,141,934.

CONSUMPTION AND COST OF FUEL

Fuel	Consumption	Cost
Domestic Anthracite..	29,851 tons	\$ 547,767
Pea .....	7,138 "	109,925
No. 1 Buckwheat .....	176,893 "	2,046,638
No. 2 Buckwheat .....	40,289 "	407,387
No. 3 Buckwheat .....	116,948 "	1,067,736
Bituminous .....	33,533 "	337,006
Coke .....	41 "	921
Total Coal .....	404,693 tons	\$4,517,380
Kerosene .....	2,480 gallons	273
No. 2 Oil .....	3,879,246 "	401,923*
No. 4 Oil .....	2,177,727 "	169,634
No. 5 Oil .....	26,000 "	1,758
No. 6 Oil .....	60,942,274 "	3,270,496
Total Oil .....	67,027,727 ***	\$3,844,084
Steam & Gas Service..	—	780,470
GRAND TOTAL..	—	\$9,141,934

The 1949-50 heating season contained 4,669 degree-days\*, which is 88.4 percent of normal. The consumptions and fuel costs are therefore lower than in a normal degree-day year.

Plants Selected for Study

Although our contract specified that not more than 60 typical plants were to be surveyed, it was found necessary to enlarge the sample to 104 in order to obtain a representative group and also to meet the requirement that the plants selected should burn at least \$2,250,000 worth of fuel.

An attempt was made to select typical plants with due regard for distribution by departments, roughly in proportion to their size. The principal types of boilers and fuels were investigated. In addition to the typical plants surveyed, certain special purpose plants have been included, such as the Queens asphalt plant, the fireboat *Hewitt*, three ferryboats, and several electric generating plants in the Department of Hospitals.

\*ED. NOTE: This figure appears as \$450,633 in the consultants' Report, but that is a typographical error.  
\*\*ED. NOTE: This figure appears as \$67,028,874 in the consultants' Report, but that is a computational error.

\*ED. NOTE: Degree-day is a unit representing one degree of declination from a given point in the mean outside temperature during a 24-hour period. Degree-days are measured by dividing by two the sum of the maximum and minimum temperature during a day and subtracting the result from 65. A temperature of 65 degrees Fahrenheit is used as a base because it is accepted that, with a temperature of 65 degrees outside, no inside heating need be supplied to maintain a temperature of 68-70 degrees within a building.



**Present Conditions and Special Recommendations Relating to Heating and Power Plants**

In the following comments on heating and power plants operated by the City departments, boards, and authorities surveyed, there are instances where no mention is made as to the general condition of plants. It is not the intention to imply that plants operated by these departments are in bad condition. No general comments are made in departments where only a very limited number of plants were visited.

In those departments where no specific recommendations are included with our descriptions, the "General Recommendations" contained in this Report are applicable. In some of the larger departments which present special operating conditions, not covered by our "General Recommendations," certain specific recommendations have been excerpted from the departmental Reports.

**Office of the President of the Borough of Brooklyn**

No. of Plants Reported .....	23
1949-50 Est. Val. of Fuel Burned .....	\$48,558
1949-50 Val. Fuel Purchased .....	\$40,870

The questionnaires returned to us represented heating plants in pumping stations, comfort stations, garages, yards, public baths, and asphalt plants.

This Office maintains records of yearly fuel consumptions but does not employ specialists to check on combustion or utilization efficiencies. Fuel records are used to indicate excessive fuel consumption. If plant efficiency has been consistently low for some time, this procedure will not detect excessive fuel use. Heating plant equipment repairs are done on outside contract. The Office maintenance staff consists of an engi-

neer, draftsman, inspector, carpenter, and plumber.

**Office of the President of the Borough of the Bronx**

No. of Plants Reported .....	12
1949-50 Est. Val. of Fuel Burned .....	\$25,340
1949-50 Val. Fuel Purchased .....	\$23,501

The questionnaires received represented heating plants in shops, asphalt plants, and garages.

No specialists are employed to make checks of combustion efficiencies. Records are kept of fuel delivered, and instances of seemingly excessive fuel requirements are investigated. Maintenance work on boilers and oil burners is performed by those responsible for operation. Major repairs are done on outside contract and examined for satisfactory operation.

**Office of the President of the Borough of Manhattan**

No. of Plants Reported .....	16
1949-50 Est. Val. of Fuel Burned .....	\$27,985
1949-50 Val. Fuel Purchased .....	\$29,789

The questionnaires received gave information on heating plants in comfort stations, shops, asphalt plants, yards, and public baths.

Periodic checks of fuel consumption are made in individual plants. Fuel consumption comparisons are made, taking into consideration previous fuel use and weather data. No combustion efficiency specialists are employed. Boiler plant maintenance is carried out by two licensed firemen. Boilers are cleaned periodically. The Office does its own oil burner service work and maintains its own electrical controls. Major repairs are done on outside contract. Plants are well maintained and operated by personnel familiar with proper operation.



### Office of the President of the Borough of Queens

No. of Plants Reported .....	24
1949-50 Est. Val. of Fuel Burned .....	\$56,579
1949-50 Val. Fuel Purchased .....	\$51,435

The questionnaires received represented heating plants in yards, comfort stations, pumping stations, district buildings, shops, and asphalt plants.

This Office keeps records of fuel delivery which are used in determining yearly budget requirements for fuel. Plants which have burned excessive quantities of fuel because of inefficient operation will not be detected in this manner. The Office does not employ specialists to check combustion efficiencies, nor are studies of plant consumption made. The Office uses its own mechanics for minor repairs. Major repairs are done by private firms on a contract basis.

### Office of the President of the Borough of Richmond

No. of Plants Reported .....	11
1949-50 Est. Val. of Fuel Burned .....	\$17,440
1949-50 Val. Fuel Purchased .....	\$14,207

The questionnaires received gave information on plants in garages, pumping stations, comfort stations, and asphalt plants.

There is no check on fuel consumption nor is there an over-all maintenance force. Maintenance is generally carried out by plant personnel. There are no facilities for testing combustion efficiency. Dirty boiler heating surfaces were observed in the plant inspected.

### General Comments on Plants Operated by Borough Presidents' Offices

The five Borough Presidents' Offices operate limited numbers of specialized plants which annually consume a relatively small value of fuel. The fact that these Offices do not employ efficiency

experts or make periodic checks of plant efficiencies is understandable as employment of combustion specialists in each Office would be uneconomical. The lack of test or control is not to be construed as a reflection on management policies. In this connection, see our recommendation for an over-all efficiency unit.

### Department of Correction

No. of Plants Reported .....	8
1949-50 Est. Val. of Fuel Burned .....	\$268,512
1949-50 Val. Fuel Purchased .....	\$305,762

The questionnaires received from this Department represented heating and power plants in prisons, houses of detention, and reformatories.

The Department operates a Bureau of Engineering and Maintenance which furnishes technical data and writes specifications for equipment and repairs which are carried out under private contract. The bureau has a staff of 26 maintenance employees. This staff has difficulty in performing preventive maintenance work as its time is apparently consumed by emergency repairs. This situation has compelled skilled personnel to rely on prison labor for assistance.

We recommend that boiler plant operating personnel perform only minor maintenance work and that major maintenance be done on an outside contract basis.

We also recommend that the Department take immediate steps to repair or replace defective operating controls and indicating instruments. Many of these instruments and controls are inoperative, and plant efficiency is suffering therefrom.

Our combustion analysis test of one of the boilers at Riker's Island Penitentiary indicated that this plant is operating at low combustion efficiency. We recommend the installation of combus-



tion controls at this plant and the reactivation of existing controls and indicators.

Board of Education

No. of Plants Reported .....	757
1949-50 Est. Val. of Fuel Burned .....	\$2,195,241
1949-50 Val. Fuel Purchased .....	\$2,126,647

Our selection of schools surveyed was based to a large extent on the fuel burning rates. Plants having fuel consumption rates in the high, medium, and low ranges were investigated. Both oil burning plants and hand-fired and stoker-fired coal burning plants were visited. High and low pressure plants were surveyed, and our investigation covered a variety of types of heating systems.

It was generally observed that central forced air heating systems were not in use. It was found in some schools visited that it was impossible to shut off steam to sections of the building which were not in use because no steam line sectionalizing valves had been installed. A check of thermostat settings indicated a range from 70 to 82 degrees F. which indicates excessive use of fuel for heating. There was great variance in the observed conditions of univents and radiator thermostats.

The Board of Education is the largest department falling within this survey. The plants are neatly maintained and generally well operated. A small percentage of minor boiler equipment was found to be inoperative. Important savings can be made by changes of fuel and installation of combustion and utilization equipment and controls.

The "Custodial System" leads to operating faults which appear to be the result of inadequate managerial policies rather than inherent evils in the system itself.

Maintenance of utilization controls,

such as radiator thermostats, is apparently inadequate.

We found men in the ranks to be competent and aware of existing conditions but frequently too limited, both in authority and manpower, to apply obvious remedies. Some of the procedures which we are recommending were once followed but have been curtailed.

**Special Recommendations** — Following are four special recommendations applicable to the Board of Education:

- (1) Increased inspection; proper maintenance of records; comparison and rating of records; and a training program.
- (2) Adequate maintenance of radiator thermostats.
- (3) Substitution of cheaper grades of fuel as set forth under "General Recommendations."
- (4) Installation of adequate, efficient combustion controls.

The recommendations we are making for the substitution of fuels which will result in a net saving of \$115,808 annually involve only tried procedures which have been proved successful elsewhere. We also direct attention of the Board of Education to the report entitled, "Report on Fuel Management Program, Bureau of Plant Operation," dated March, 1948, in which the results obtained by an intensive control of operation and changes in methods of firing are described.

Fire Department

No. of Plants Reported .....	285
1949-50 Est. Val. of Fuel Burned .....	\$236,155
1949-50 Val. Fuel Purchased .....	\$231,601

The questionnaires received by us represented heating plants in engine and hook and ladder company houses, central offices, fireboats and other facilities operated by the Fire Department.

The large majority of plants in use



in the Fire Department are low-pressure heating plants in individual fire houses. Boilers are of the small cast-iron sectional type. Some plants contain small domestic hot water coal stoves to provide hot water during the summer periods. Boilers are of sufficient size to maintain adequate heating. In some cases, radiator sizes are insufficient and pipe arrangements are such that all portions of the building do not receive adequate heat.

Boilers are usually tended by master pump operators when they are not out on fire calls.

Except in those relatively few buildings which have automatic door-closing equipment, fire house doors are left open during fire calls. This practice wastes heat. Upon return from fires, firemen desire quick and adequate heat and excessive amounts of fuel are burned to bring fire houses back to proper temperature quickly. It is recommended that automatic door-closing equipment be installed where practicable.

Plants visited were in various states of disrepair. The reason advanced was that it is difficult to obtain repair services and parts. The Department's maintenance staff is small and is called upon to care for departmental facilities other than heating plant equipment.

The amount of fuel allocated to each fire house is determined by using size, location, and exposure as criteria. Additional fuel supplies can be obtained if necessary, but requests are generally not made for fear of censure. In some cases, wood (obtained from local merchants and neighbors) is burned.

We are aware of the difficulties that the Fire Department has experienced with mechanical firing devices, particu-

larly stokers. Our recommendations call for the installation of stokers in some plants to enable them to burn No. 2 buckwheat instead of domestic anthracite or pea coal. These mechanical devices should not be installed unless there is adequate assurance that they will be properly maintained. We have included in our estimates what we consider an adequate annual maintenance allowance for these devices. Operating personnel should be instructed in the proper operation of these devices. No high degree of skill is required for their operation but, like all mechanical devices, they should be used properly if maintenance is to be kept at a minimum.

### Department of Health

No. of Plants Reported .....	31
1949-50 Est. Val. of Fuel Burned .....	\$33,977
1949-50 Val. Fuel Purchased .....	\$36,061

The Department of Health returned 31 questionnaires representing heating plants in clinics and health centers.

Each of the plants selected had one boiler per plant and was fully automatic. Heating surfaces were clean, fire-boxes were in excellent condition, and boiler rooms were exceptionally neat and clean. Each custodian understood the operation and adjustment of his equipment.

The Department has a staff of building inspectors competent to advise and assist custodians. No combustion or repair specialists are employed. Repairs are handled on an outside contract basis. The custodians stated that they received prompt attention to requests for repairs and replacement of materials. Building personnel are under Civil Service jurisdiction and are not hired by the custodian. This Department should be commended for its method of carrying on operations and maintenance.



Board of Higher Education

No. of Plants Reported .....	12
1949-50 Est. Val. of Fuel Burned .....	\$221,855
1949-50 Val. Fuel Purchased .....	\$198,646

Heating and power plants are administratively grouped under the four colleges operated by the Board: City College, Hunter College, Queens College, and Brooklyn College. Each college has a custodian-engineer who is ultimately responsible for the operation and maintenance of plants. The Board has a coordinating and specification engineer, but he has no control over decisions concerning the necessity of equipment purchases. There is an "Architectural and Engineering Unit" to provide technical assistance and also pass upon and co-ordinate plans and specifications. The colleges are autonomous as far as fuel usage and maintenance are concerned. The condition of the plant depends upon the performance of the chief engineers who are chosen upon the basis of past performance.

As individual plant custodians may not be aware of technological advances, we recommend that the Engineering Supervision Bureau be used to make periodic inspections and recommendations or else that the present "Architectural and Engineering Unit" be given the right to make periodic inspections and originate modifications as necessary.

Department of Hospitals

No. of Plants Reported .....	26
1949-50 Est. Val. of Fuel Burned .....	\$1,828,660*
1949-50 Val. Fuel Purchased .....	\$1,938,469

Exclusive of Bellevue, there are 25 hospitals in this survey. Nine hospitals generate electricity and nine do not. Seton Hospital burns oil and coal and does not generate electricity. Two hospitals are on New York Steam Corpo-

ration service. City Home and Cancer and Metropolitan receive steam from the Goldwater central power plant. Kingston Avenue is served from Kings County, and the Farm Colony is served from Sea View. The total cost of fuel used in electric generating plants is \$1,087,800. Coal and oil burning plants without electric generation burned fuel totalling \$341,500.

Conditions in these hospitals are characterized by deterioration of adequate combustion and efficiency metering instrumentation and by lack of necessary tools and contractual facilities to keep these plants in the most efficient operating condition. The present supervisory and operating force do very well with the material at hand. To do better, they need adequate control and instrumentation.

Operating reports should be put on a more practical basis under which total costs of operation are compared with previous results or calculated optimum data. We have briefly examined the effect of discontinuing operations of electric generating plants. A gross reduction in operating cost of \$200,000 per year can be made with conversion to purchased electricity, with changes to service installations costing not over \$500,000.

Following are estimates of investments, gross savings, fixed charges, and net savings corresponding to the six categories of savings defined in the contract:

- (1) *More careful operation of existing equipment* would permit Goldwater central power plant, equipped with a full metering control, to reduce operating cost by \$10,000 per year by proper operation and adjustment of the control system.

\*Including Bellevue.



(2) *Repairs to existing combustion equipment* affecting the combustion efficiency can be made at Neponsit and probably Queensboro and Goldwater. At Neponsit cost reduction would be approximately \$1,800 per year's operation of the No. 2 boiler. Tests were not made at Queensboro or Goldwater but observation of  $\text{CO}_2$  readings indicates that improvement could be made.

(3) *On more careful selection and use of fuels*, involving selection of the best fuel for the purpose, we suggest experimentation with high volatile anthracite coal at Kings County and Sea View to reduce operating costs \$17,000 per year.

(4) *Changes or additions to existing combustion equipment* involving conversion from coal to oil would also produce savings. At Fordham and Lincoln Hospitals, at an investment of \$60,000 each, gross annual reductions of \$9,250 may be achieved with fixed charges of \$6,600 and net reduction of \$2,600.

At Seton Hospital, interconnection of the existing oil burner boiler with the load of the existing coal-fired boilers at an estimated cost of \$13,000 can achieve a gross reduction of \$12,000 in fuel and labor at fixed charges of \$1,440 and a net saving of \$10,560.

At the Municipal Sanatorium, conversion of 39 heating plants to No. 4 oil at an investment of \$115,000 can reduce operating costs by \$22,800 with a net saving of \$10,100.

(5) *Additional instrumentation and control of combustion* is estimated on the basis of continuing the operation of the existing electric generating plants. Reduction of fuel by discontinuance of generation may make investment economically unsound at such plants as Gouverneur and Neponsit. We estimate that with an investment of \$182,450, a gross reduction of \$69,675 may be made,

and with fixed charges at \$20,000, a net saving of \$49,800. Investment may be reduced by repairing existing equipment.

Additional utilization control and instrumentation are best applied where generating plants are not in operation, or where heating loads are served from high pressure steam. The outstanding cases are Sea View, the Farm Colony, and other buildings using high pressure steam for heating. At least 5,000 tons of coal more than normal are used. Reduction by control is estimated at approximately \$30,000.

Sydenham Hospital uses over twice the quantity of oil normally expected in such a hospital. Allocating all loss to utilization, it would amount to about \$11,000 per year. Control can probably be applied also at Kings County and Morrisania effectively. A total of \$99,500 per year could be saved after elimination of all electric generating plants. This reduction would permit a maximum investment in control equipment and piping changes of \$730,000. We believe that desired results could be accomplished on much lower total investments.

(6) *Stack discharges*, which may be objectionable to the Smoke Control Bureau, are probably caused by incinerators, particularly at Morrisania. Difficulty also may arise due to the positioning control where puffs of smoke may be emitted when burners are going from low fire to high fire; or at Gouverneur, where the combustion chamber is too large for the loads carried. Oil-fired plants should be equipped with haze gages and alarms; periscopes should be abandoned.

The substantial reduction in operating costs outlined above can be maintained as follows:



(a) Provision should be made for a new division within the present Bureau of Engineering, staffed by a professional engineer trained and experienced in the economics of power plant operation and combustion and utilization problems. He should be aided by a junior engineer.

(b) The funds necessary to maintain proper combustion and utilization control and metering equipment and to provide necessary portable test equipment should be allocated.

(c) Contracts for repairs to equipment should be authorized at once and expedited, as the stopping of continuing waste soon pays for the repairs.

**New York City Housing Authority**

No. of Plants Reported .....	49
1950 Est. Val. of Fuel Burned .....	\$ 901,475
1950 Val. Fuel Purchased .....	\$1,368,663

All the questionnaires returned to us from the New York City Housing Authority indicate use of No. 6 fuel oil to provide heating and hot water in the 19 housing projects reported. No conversions to other fuels are worth while.

The Housing Authority purchases its fuel directly from suppliers on its own specifications.

Each project is served from one or more central heating plants. Boilers are of the steel firebox type, fired with automatic rotary-cup oil burners. Heating systems are automatically controlled and generally of the vacuum type. In some instances the vacuum pumps were inoperative.

In conducting this survey, comparisons were made of City housing projects with privately owned projects. These indicated that in projects of comparable size the Housing Authority uses from 14 to 45 percent more oil per dwelling unit than do the privately operated plants. There is a wide variation in the use of fuel per cubic foot of building volume in the City-operated

plants (from 7.1 lb. to 10 lb. per cu. ft.). These figures are from 160 to 200 percent of use in housing projects of the Metropolitan Life Insurance Company. It is only fair to note that comparisons made by the Public Housing Administration and by the State Housing Authority indicate that the City Housing Authority buildings stand up well in comparison with other public housing authorities, but there is apparently no question as to the validity of the great difference between the results obtained by Metropolitan's housing and those obtained by the City. However, there should certainly not be the great difference which exists between units of similar character and size under the control of the City Housing Authority itself. There are many possible reasons for these variations which should be fully developed and avoided in future construction and operation.

**Special Recommendations** — Following are eight special recommendations for plants operated by the New York City Housing Authority:

(1) The Housing Authority conducts a school for its operating personnel. This is an important step in the right direction and should be continued.

(2) We recommend that a technically trained maintenance engineer for heating systems be employed and given necessary assistance or that the manufacturers of the various control systems used be authorized to make regular inspections so that control equipment is operated efficiently.

(3) A complete study should be authorized promptly to determine the reasons for the wide variation in fuel use per cubic foot in City-operated plants and to determine the reasons for the excessive use of fuel in comparison with Metropolitan housing projects.



(4) We recommend that a centralized system of vacuum pump and steam temperature control, similar to that installed by the Metropolitan housing projects, should be installed in groups using the Dunham system of control.

(5) We recommend that fuel oil and air ratio controls by haze density be installed where applicable.

(6) Boilers should be scheduled to run at full capacity as far as possible and standards should be set up both in regard to boiler use and steam temperature to be carried.

(7) There should be close co-ordination between working management and the design engineers, so that the experience of operating personnel can be incorporated into future design.

(8) We recommend that a study be made of the possible advisability of converting Lillian Wald and Jacob Riis housing projects to New York Steam Corporation service.

## Department of Marine and Aviation

No. of Plants Reported .....	49
1949-50 Est. Val. of Fuel Burned .....	\$1,498,009
1949-50 Val. Fuel Purchased .....	\$1,225,672

This Department operates both high and low pressure plants, ashore and afloat, burning coal and oil to supply heat and power to ferries, tugs, pile drivers, piers, and shops. Of the total value of fuel consumed, 93 percent is No. 6 oil burned by ferryboats.

No comparative records of fuel consumption of ferryboats are maintained nor are there any standards of efficiency set up for the various classes of boats. The power plants of the boats are not subject to periodic efficiency tests to detect wasteful practices. Responsibility for maintenance is divided among three watch engineers per boat and, as crews are frequently shifted, there is no single person responsible for proper and efficient operation. Fear of smoke violations is also leading to inefficient combustion practices.

It was practically impossible to obtain accurate information on comparative fuel use of boats per trip from the Department.

**Special Recommendations** — Following are seven special recommendations for ferryboats operated by the Department of Marine and Aviation:

(1) All existing instrumentation in ferryboats should be put in first-class condition, or should be replaced.

(2) Our CO<sub>2</sub> tests conducted in ferryboats indicated that they are operating at about 6.5 percent CO<sub>2</sub>. This is very low and results in a large amount of fuel waste. We recommend that a fuel/air ratio control operating on haze density be installed for test purposes in one boat. If tests prove satisfactory, the use of these devices should be extended.

(3) We suggest an investigation of the *possibility* of maintaining close and positive contact between ferryboats and slips without operation of the main engines.

(4) We recommend increasing the steam pressure at the main engines from 175 to as near 215 psig.\* as possible.

(5) We recommend that periodic tests of ferryboats be conducted to detect inefficiencies in combustion or utilization processes and that standards of operation be established.

(6) We recommend that consideration be given to the possibility of selecting the most competent engineers to be permanently assigned among the various boats and made responsible for the proper maintenance of all combustion and propulsion equipment.

(7) This Department needs a drastic reorganization of methods of controlling all operations and maintenance. We believe that results can be obtained and maintained by the formation within the Department of an efficiency unit charged with these responsibilities, working in connection

\*ED. NOTE: Pounds per square inch, gage.



with the Engineering Supervision Bureau.

Department of Markets

No. of Plants Reported .....	28
1949-50 Est. Val. of Fuel Burned .....	\$24,921
1949-50 Val. Fuel Purchased .....	\$20,141

The questionnaires returned to us from this Department represented heating plants in markets and warehouses.

A small squad is used in the maintenance of plants. Repairs which cannot be handled by this force are performed either by the Department of Public Works or on outside contract.

A record is kept of fuel delivered to plants. There is no periodic check of fuel use in an attempt to reduce consumption by increased efficiency and no combustion analysis specialists are employed. It is doubtful if such specialists are justified in view of the relatively small value of fuel burned.

Department of Parks

No. of Plants Reported .....	537
1949-50 Est. Val. of Fuel Burned .....	\$200,363
1949-50 Val. Fuel Purchased .....	\$189,127

The Department of Parks returned questionnaires which represented heating plants in garages, recreational facilities, comfort stations, and administration buildings. Of the total, 225 are gas-fired heating plants which are generally heated by unit heaters and gas-fired radiators of various types. There is a limited number of gas-fired central heating plants. In at least one instance where a gas-fired central heating system is presently employed, it would be economical to convert to oil firing. We recommend investigation of the other *centrally* heated gas-fired plants to determine the advisability of conversion to oil.

The principal combustion equipment was in sound condition. Heating sur-

faces were dirty. Heating systems were in good condition. In some instances vacuum pumps were inoperative for various reasons. Heating system controls were either non-existent or damaged. Many plants were using more expensive fuels than necessary. Oil burning plant combustion efficiencies were low. In one of the plants surveyed, unnecessary labor was employed which could be eliminated by conversion to automatic operation.

There is no group in the Department which is responsible for continuing efficiency tests and no regular check of fuel consumption is made. No systematic analysis is made to see that plants are burning the least expensive fuel possible. These comments are not to be construed as a reflection on the maintenance forces, as the size of these forces available for heating plant work is limited. The two biggest fuel costs are associated with purchases of domestic anthracite and No. 2 oil which are, respectively, the most expensive coal and oil obtainable.

Police Department

No. of Plants Reported .....	121
1949-50 Est. Val. of Fuel Burned .....	\$142,677
1949-50 Val. Fuel Purchased .....	\$143,028

The questionnaires received represented heating plants in precinct station houses, stables, storehouses, service stations, garages, and shops.

Most of the fuel consumed by this Department is burned in the individual station houses which are heated by a single cast-iron sectional boiler. Separate stoves for heating domestic hot water are also employed. Boilers appeared to be in good condition but considerable soot deposits were observed.

The maintenance of heating equipment is under the supervision of the



Department Superintendent of Buildings. At the end of each heating season, requests are made to all precinct commanders to list repairs which they wish made to heating systems. Those repairs which cannot be made by Department personnel are done on outside contract. No technical personnel are available to make efficiency tests of combustion or utilization equipment.

Department of Public Works

No. of Plants Reported .....	55
(Div. of Bldg. Mgt.)	
1949-50 Est. Val. of Fuel Burned .....	\$168,970
(Div. of Bldg. Mgt.)	
1949-50 Val. Fuel Purchased .....	\$265,852
(All divisions)	

The Department originally returned 55 questionnaires representing heating plants in buildings operated by the Division of Building Management. It was learned that there are approximately 61 unreported additional fuel burning locations, ranging from small bridge tender stoves to heating plants in shops and offices.

The Department operates the Boroughs' various courthouses and other principal City buildings.

The operation and maintenance of all building mechanical equipment is under the Chief of Mechanical Services. The staff which carries out these many functions is small, but the Mechanical Services Section has done well considering this limitation.

Heating plants visited were well maintained and operated. Modern trends are being followed by installing electric-eye combustion controls. Basic repairs have been well handled, while some other economy producing features were slighted.

We recommend that the Mechanical Services Section be directed to see that

plant equipment records are kept; additional plant inspections are made to insure better firing practices; economy producing innovations and equipment, such as we recommend, are installed as a regular practice.

Department of Sanitation

No. of Plants Reported .....	202
1949-50 Est. Val. of Fuel Burned .....	\$182,172
1949-50 Val. Fuel Purchased .....	\$202,684

The Department of Sanitation returned questionnaires representing heating plants in garages, incinerators, section buildings, and dumps.

The Department's Fuel Control Division is an efficient group which keeps constant check of fuel consumption. It is alert to problems of fuel economy and makes recommendations for changes in heating plants to effect use of less expensive fuels. This group would operate more efficiently if it had available the services of technical personnel. The Fuel Control Division prepares a monthly report which presents statistical data on fuel consumption and control and suggests studies or programs to effect economies.

Certain special operating conditions are presented in the Department by virtue of the large number of garages operated. Considerable heat loss is experienced as a result of the opening of garage doors.

Our survey of plants indicates that more attention should be given to maintenance of heating equipment as inoperative stokers and damaged boilers were observed.

It is evident that while the Fuel Control Division is to be commended for its work, additional attention should be given by the Department to operation and maintenance of heating plant equipment.



**Department of Water Supply,  
Gas and Electricity**

No. of Plants Reported .....	92
1949-50 Est. Val. of Fuel Burned .....	\$185,682
1949-50 Val. Fuel Purchased .....	\$230,735

The questionnaires returned to us by this Department represented heating plants in garages, shops, chlorinating and pumping stations, offices, locker rooms, and other departmental facilities.

The division engineer in charge of division design is responsible for the selection of the type and grade of fuel used in heating and power plants. No regular comparisons of efficiencies of similar plants are made. No regular combustion efficiency tests are made. There is a program of conversion of pumping stations from fuel burning plants to electrically driven plants which is reducing operating costs at these installations. The most obvious defect in operating procedure appears to be lack of attention to cleaning of boiler heating surfaces.

Little use is being made in the Department of available combustion or utilization controls intended to reduce fuel consumption.

**Department of Welfare**

No. of Plants Reported .....	33
1949-50 Est. Val. of Fuel Burned .....	\$96,893
1949-50 Val. Fuel Purchased .....	\$59,397

The questionnaires returned to us represented heating plants in welfare

centers, training institutions, homes, camps, and offices.

The combustion equipment observed was in sound physical condition considering the age of the installations. There was considerable soot deposit on the boiler heating surfaces in one plant. Operating personnel indicated that there was little trouble with heating systems.

A record is kept by each plant engineer or custodian of the fuel received, fuel burned, and fuel on hand.

There is no unit in the Department of Welfare which makes regular checks of combustion efficiencies and fuel consumption. No combustion analyses are made and there is no personnel available for such work.

Major repairs are carried out on contract. There is a limited maintenance force available for general maintenance work. There is an annual program of cleaning low-pressure boiler heating surfaces, and high-pressure boiler heating surfaces are cleaned as required.

The Department is generally using the less expensive types of coal. In the case of low pressure plants which burn buckwheat coal, considerable labor is required. In those instances where possible labor savings permit, we are recommending conversion to oil firing. Such conversions should not be made unless labor savings are obtained, as they cannot be justified purely on the basis of reduced fuel cost.

**ESTIMATES OF SAVINGS AND REQUIRED INVESTMENTS  
AND EXPLANATION OF SUMMARY SHEET**

The table on page 000 indicates our estimates of savings to be made in those fuel burning plants operated by the City which fall within the scope of our investigation.

These estimates are the result of

projecting the savings found to be obtainable. The changes necessary to produce these savings are outlined in the "General Recommendations," "Maintenance and Special Recommendations," and departmental Reports. The estimates



are broken down in accordance with the questions outlined by our contract with the City. It should be pointed out that the changes recommended are, in some cases, made up of more than one component. For instance, the installation of a stoker which permits the use of a less expensive coal requires the installation of a cycling utilization control. In such cases, the changes are listed under the predominant factor involved.

The column marked "Required Investment" indicates our estimate of the total cost of installations, including the cost of material, labor, an allowance of 25 percent for engineering and contingencies and, where necessary, a 15 percent allowance for contractors' profit and overhead.

The column marked "Gross Reduction" is the reduction in operating cost due to the use of a less expensive fuel,

ESTIMATES OF SAVINGS AND REQUIRED INVESTMENTS  
FOR DEPARTMENTS, BOARDS, AND AUTHORITIES SURVEYED

	Required Investment	Annual Cost	Gross Reduction	Net Saving
1. "More careful selection and use of fuels".....	\$ 8,820	\$ 972	\$ 45,034	\$ 44,054
2. "Use of additional combustion instrumentation and control" .....	574,640	63,325	211,793	151,032
3. "Changes or additions to existing combustion equipment," including changes of fuel .....	2,008,117	221,294	473,402	252,386
4. "Installation of control system or devices to effect better heat utilization" .....	302,634	33,350	175,389	134,980
5. TOTAL (Physical changes) .....	\$2,894,211 <sup>a</sup>	\$318,941	\$ 905,618 <sup>b</sup>	\$582,452
6. "More careful operation of existing combustion apparatus" (After above changes) .....	—	—	373,000 <sup>c</sup>	105,425
7. "Repairs to existing combustion equipment" .....	375,000	41,325	—	
8. Engineering Supervision Bureau .....	—	146,250 <sup>d</sup>	—	
9. Added departmental supervision .....	—	80,000 <sup>e</sup>	—	
10. TOTAL (Called for by contract) .....	\$3,269,211	\$586,516	\$1,278,618	\$687,877
ADDITIONAL INVESTMENT AND SAVINGS				
1. Shutdown of hospital electric generating plants <sup>f</sup> .....	500,000	55,000	200,000	145,000
2. Reduction of steam waste and application of utilization control after shutdown of generating plants <sup>g</sup> .....	400,000 <sup>h</sup>	44,080	99,500	55,420
3. TOTAL (All investments and savings) <sup>h</sup> .....	\$4,169,211	\$685,596	\$1,578,118	\$888,297

<sup>a</sup> In addition to the cost of recommended installations this figure includes an allowance of \$347,305 for engineering and \$231,537 for contingencies, a total of \$578,842.

<sup>b</sup> An annual additional maintenance allowance of \$48,305 has already been deducted from this figure.

<sup>c</sup> This figure is based on a 5 percent saving on the funds actually expended during the fiscal year 1949-50 for fuel, less the total gross reduction shown in Item 5 of the tabulation.

<sup>d</sup> See itemization of annual cost of the Engineering Supervision Bureau on page 000.

<sup>e</sup> This figure includes a \$20,000 per year allowance for additional supervisory personnel in the Department of Marine and Aviation, New York City Housing Authority, Department of Hospitals, and Board of Education.

<sup>f</sup> "The relative advisability of isolated plant vs. central station service" is excluded from the terms of

our contract with the City. However, in our study of the Department of Hospitals, it became apparent that significant savings could be made by shutdown of electric generating plants in some hospitals. These additional savings are, therefore, indicated in this tabulation for the guidance of City personnel.

<sup>g</sup> The figures indicated in this item are predicated upon shutdown of electric generating plants and installation of utilization controls which would then become economical, as exhaust steam would no longer be used for heating purposes.

<sup>h</sup> This total does not include savings which may result from recommended studies of the use of New York Steam Corporation service.

<sup>i</sup> This is an estimated cost based on the cost of utilization controls installed after shutdown of electric generating plants. The maximum economical investment is \$720,000.



more efficient use of a fuel, more efficient utilization, elimination of labor, or a combination of these, less the annual maintenance allowance.

The column marked "Annual Cost" contains the fixed charges on the required investment and additional costs associated with an Engineering Supervision Bureau and other supervisory personnel.

The column marked "Net Saving" is the saving left after payment of fixed charges.

The totals of these columns for the first four items indicated give our estimates of the costs and savings associated with physical changes. In addition to these, savings can be made through "more careful operation of existing combustion apparatus." While

it is true that these savings can be realized without adding to the capital investment in physical plants, it is not true that they can be made without cost, as more careful operation requires additional costs associated with supervised control of operations. Against the allowance for more careful operation, we have charged the estimated annual cost of City-wide and departmental efficiency units.

Our estimate of "repairs to existing combustion apparatus" is necessarily approximate, as there is wide variation as to the types of repairs required. Our enlarged sample of plants surveyed took us to only 4.3 percent of the 2,371 plants reported. As these plants range greatly in size and purpose, the types and values of repairs also vary widely.

## RECOMMENDATIONS FOR AN ENGINEERING SUPERVISION BUREAU

Our investigation of 2,371 fuel-burning heating, power, and special purpose plants, operated by 20 departments, boards, and authorities of the City, indicates that substantial economies can be brought about in plant operation.

In order to realize and maintain economies, there is need for an *independent* Engineering Supervision Bureau which will act as consulting engineers for these City agencies. The Engineering Supervision Bureau should provide the following services:

(a) Plan, follow up, and direct carrying out of the recommendations of this Report after securing necessary authorization.

(b) Establish a system of inspection, recording, comparison, and rating of results appropriate to the size, type, and fuel consumption of plants.

(c) Establish test units equipped to carry out combustion and utilization tests and make minor repairs to

combustion and utilization controls and indicating devices.

(d) Establish standards of performance for combustion and utilization for various types of plants and check deviation from such standards.

(e) Report to departmental heads on the effect of economy-producing devices and procedures and recommend steps to be taken for further economies.

(f) Aid in the establishment of operating personnel training programs, either on a departmental, multi-departmental or City-wide basis.

We suggest dividing the proposed Engineering Supervision Bureau into the following two units:

(1) *Engineering Unit*: The Engineering Unit should set up within each department a system for reporting fuel consumptions adapted to the size, type, and purpose of the plants. Reports should be made on standard forms, to be filled out by departmental personnel.



The reports should include pertinent data on defective equipment, which would aid in rapidly detecting wasteful practices. The Engineering Unit should survey those plants in which significant savings can be made. It should prepare estimates for the modifications required, send these estimates to the appropriate department head, and attempt to obtain prompt authorization for these projects. Upon approval of the projects, the unit should check contracts, prepare operating instructions, and carry out on-the-job training.

(2) *Supervision, Test, and Control Maintenance Unit*: This unit should consist of trained specialists who, upon completion of the installations, shall test equipment to assure proper adjustment. This unit should also receive combustion test records for important plants and inspect plants periodically to check efficiency of combustion. It should also carry out minor repairs on specialized control and indicating devices.

The services to be furnished by an independent Engineering Supervision Bureau, as outlined above, are intended to assure a systematic approach to the reduction in plant operating costs and provide a means by which need for maintenance is brought forcibly to the attention of the appropriate department head. Certain special skills in plant efficiency testing and maintenance will also be made available.

The salaries paid to technical personnel in this bureau should be equal to those paid for similar jobs in private industry in order to reduce turnover in personnel to a minimum. Much time and money will be lost if it is necessary to continue training of new personnel for these jobs.

We consider it necessary that the Engineering Supervision Bureau be independent of all existing City departments in order that its budget allowance should not be reduced, or transferred to other uses.

The bureau should be headed by an engineer with extensive practical experience in combustion and utilization processes. He should have both administrative and technical competence and should be capable of maintaining harmonious relations with departmental personnel.

The first two years will be a period of organization and getting the recommended changes under way. The chief functions of the bureau during this period will be to design installations, organize systems of records and inspections, and prepare sketches and estimates of changes to individual plants. The allowance of \$348,777 contained in the estimated cost of changes should cover the entire cost of the foregoing, provided the recommendations are approved.

Thereafter, the annual cost of the Engineering Supervision Bureau should be \$146,250, as shown below:

Service	Annual Cost
1 Chief engineer .....	\$ 12,000
4 Assistant engineers @ \$6,000 each .....	24,000
10 Test and maintenance men and inspectors @ \$4200 each .....	42,000
<b>TOTAL (for technical personnel) .....</b>	<b>\$ 78,000</b>
Vacations, overtime, contingencies, and salary adjustments (25 percent of total) .....	19,500
<b>TOTAL .....</b>	<b>\$ 97,500</b>
Rental of space, interest and amortization of equipment, office expenses including steno- graphic services, telephone, transportation, clerical force, and supplies (50 percent of total) .....	\$ 48,750
<b>TOTAL .....</b>	<b>\$146,250</b>



## SURVEY PROCEDURE AND TECHNICAL DATA

### Methods of Obtaining and Classifying Information

At the outset of this investigation, conferences were arranged with executives having jurisdiction over fuel-burning plants in each department. Questionnaires were filled out giving pertinent data on all plants. We received a total of 2,371 questionnaires which formed the basis of our survey.

Upon receipt of these questionnaires, the plants were generally classified by operating pressure, source of heat, type and number of boilers, and special purpose plants.

Upon completion of this classification, a summary tabulation was prepared indicating, by departments, the number of plants in each combination of classifications and the tons or gallons of fuel burned by each type of plant. In this manner it was possible to select for study typical plants which would be useful in projecting the findings obtained from the study of the limited number of plants to the entire group of 2,371 plants.

It should be stressed that it was not the intent of this study to cover all types of plants in each department. This would have necessitated a study of considerably greater magnitude.

It should be borne in mind that the recommendations and conclusions are based on a limited sample and it is therefore important that, before any recommended changes are carried out, a detailed engineering study of each plant should be made to establish any variations from the typical plants forming the basis of our recommendations.

### Method of Conducting Surveys

In conducting the preliminary surveys, our staff of engineers made

sketches of the boiler plants, indicating the approximate dimensions and locations of major items of equipment and other pertinent information. Photographs were taken of nearly all plants surveyed, indicating the general arrangement and appearance of the plant. Detailed technical information was also obtained on building characteristics, fuel handling and combustion equipment, boiler and furnace characteristics, uses of steam and hot water, heating systems, control devices, etc. In those plants selected for intensive study, a CO<sub>2</sub> stack temperature and draft recorder was installed and a continuous record of all-day combustion efficiencies was obtained under various conditions. Close attention was given to cost versus saving estimates, possible labor savings, and operating procedures. Where overheating was suspected, recording thermometers were installed in heated spaces. Tests also were made outside of New York City to permit an evaluation of results of fuel-burning systems being considered for recommendations.

### Unit and Annual Fuel Costs

It was necessary early in this study to establish a uniform set of unit fuel costs which would be applicable to all the departments falling within the scope of the survey so that uniform comparisons could be made between plants. It was decided to average the prices in effect at the start of this study for each type of fuel purchased in upper and lower Manhattan, Bronx, Brooklyn, Queens, and Richmond. The Department of Purchase fuel prices were used.

It is recognized that these prices are probably lower than those which will be in effect at the time that the economies proposed herein are effected.



In most departments it was found that no record was kept of annual fuel costs for each plant. It was, therefore, necessary to multiply the annual fuel consumptions, as indicated on the questionnaires, by the appropriate unit fuel cost.

Our estimates of fuel cost will not coincide exactly with actual costs. Variations will be brought about through the use of average unit fuel costs and through the application of the latest unit cost data available at the start of this study rather than actual prices at time of delivery. Furthermore, cost estimates are accurate only to the extent that the fuel consumption information supplied to us by the departments was complete and correct. These considerations should not affect our findings materially.

### Financing of Recommended Changes

Generally the City may finance modifications of existing heating and power plants in one of two ways: either from tax receipts or by the issuance of bonds and capital notes.

As the City is rapidly approaching its tax limit, the changes recommended in this Report would probably be financed through the issuance of bonds and capital notes.

The maximum legal term of bonds used for such improvements is 10 years and the maximum term for capital notes is 2 years. At the present time, 70 percent of the total amount required could be raised by bonds and 30 percent by capital notes. Each year the amount financed by capital note issue would increase by 2 percent and the amount financed by bonds would decrease by 2 percent.

Both the bonds and notes would be paid off serially, the former carrying

interest estimated at  $2\frac{1}{2}$  percent and the latter at  $1\frac{1}{4}$  percent. It is assumed for the purposes of this study that both bonds and capital notes would be issued for their maximum legal term. The *average* yearly interest and amortization of money obtained to finance these recommended changes would amount to 11.02 percent per annum.

It is expected that, with proper maintenance, the equipment installed will have a life considerably in excess of 10 years, the period during which the equipment must be amortized. This period merely reflects the restrictions on the duration of the bonds and capital note issues imposed by law.

### Application Point Formula

In order to determine the advisability of making changes or additions to existing boiler plant and heating system equipment it was necessary to determine the minimum size of plant measured in annual fuel consumption in which certain devices could be installed economically. It can be shown that the "Application Point" for such changes can be determined by the following formula:

$$\text{Application Point} = (T_1) = \frac{.1372 C + M - L}{P_1 - (1-S)(P_2 + E)}$$

, where

$P_1$  = price per ton or gallon of present fuel.

$P_2$  = price per ton or gallon of proposed new fuel.

$T_1$  = tons or gallons presently consumed annually.

$S$  = ratio of the decrease in fuel consumption after conversion to fuel consumption before conversion.

$E$  = the additional cost of electricity per ton or gallon required by the device in question.

$C$  = the investment required including material, labor, engineering, contingencies, profit, and overhead.

$M$  = the annual maintenance allowance.

$L$  = the annual labor saving.



The above formula was used by us to determine the lower limit of annual fuel consumption where specific devices might be applied to effect increased fuel economy. The upper limits were generally determined by other criteria such as the lower limits of other devices which might be applied.

It should be noted that at the end of the amortization period the annual net savings will be increased by 11.02 per cent of the original investment, which was allowed for interest and amortization.

Annual plant fuel use was corrected to that expected on a normal degree-day year before determination of the applicable "General Recommendation." As Application Points will vary with changes in fuel, equipment, and labor costs, they should be recalculated before changes are made.

Method of Projection

Using the questionnaires as a basis, charts were prepared on which the number of boilers per plant were plotted showing the annual fuel consumption of each plant. Plants were divided by principal types of fuels and departments. After Application Points were calculated in a manner previously described, a correction was made for the degree-days experienced during the fiscal year 1949-50 and plants were then counted from these charts to determine the number of boilers or plants to be equipped with the device in question and the amount of fuel presently used by these plants. In this manner it was possible to project to large groups of plants the changes to plant equipment and operating procedures which are outlined in our "General Recommendations."

GENERAL RECOMMENDATIONS

The recommendations which follow set general limits for the application of changes to equipment and fuel.

The application of these recommendations and their results are contained in the "Estimates of Savings and Required Investments."

These recommendations should not be followed blindly. They are intended to point out areas in which economies may be effected. Before actual changes are made, an engineering study of the particular plant involved should be carried out to check any deviations from the typical plants surveyed.

*The following recommendations are for plants presently burning domestic anthracite for heating (broken, egg, stove, and nut coal):*

(1-A) At or above the following Application Points, conversion to No. 2 buckwheat anthracite is recommended with the installation of a deep-firing forced draft system employing small aperture grates.

No. of Boilers (Required at Peak)	Application Point (Ton/Year/ Plant)	Average Grate Area/Boiler	Approx. Rated BHP/Boiler
1	42	18 sq. ft.	50
2	76	25 " "	86
3	121	35 " "	160
4	153	35 " "	160

The installation of this controlled firing system requires the replacing of present grates with small aperture grates which will retain No. 2 buckwheat without loss of coal to the ashpit. Forced draft blowers are installed to permit the burning of small-sized



anthracite in deep beds. Sufficient coal to last many hours is placed on these grates up to a bed thickness of 18 to 20 inches. This heavy stoking of fuel permits conversion to smaller size anthracite — which would otherwise burn rapidly—without increasing labor costs. The efficient use of this system of firing requires properly trained personnel.

Only the number of boilers required for peak load should be converted. A small supply of domestic anthracite should be kept for emergency use on any unconverted boilers.

(1-B) Between the minimum and maximum tons indicated below, it is recommended that plants presently burning domestic anthracite be converted to burn No. 2 buckwheat with the installation of mechanical retort stokers. Along with the installation of these stokers, an outdoor wind- and temperature-sensing utilization control system should be employed.

Only the number of boilers required for peak load should be converted to stoker operation. An emergency supply of domestic anthracite should be kept for use on unconverted boilers.

No. of Boilers/Plant (Required at Peak)	Application Point (Tons/Year/Plant)	Maximum (Tons/Year/Plant)
1	31	41
2	58	75
3	84	120
4	111	152

(1-C) Plants having annual consumptions below the Application Points of the stokers mentioned in paragraph 1-B should continue to burn domestic anthracite. Between the limits indicated below, these plants should have installed thermostat-controlled check and ash door dampers on the existing boilers.

No. of Boilers/Plant (Required at Peak)	Application Point (Tons/Year/Plant)	Maximum (Tons/Year/Plant)
1	12	30
2	21	57

(1-D) Below the Application Points indicated in recommendation 1-C, no major changes in equipment are warranted in heating plants.

*The following recommendations are for those plants presently burning anthracite pea coal for heat:*

(2-A) At or above the following Application Points, conversion to No. 2 buckwheat anthracite is recommended with the installation of a deep-firing forced draft system.

No. of Boilers (Required at Peak)	Application Point (Ton/Year/Plant)	Average Grate Area/Boiler	Approx. Rated BHP/Boiler
1	65	18 sq. ft.	50
2	118	25 " "	86
3	190	35 " "	160
4	240	35 " "	160

(2-B) Between the Application Point and the maximum consumption indicated below, it is recommended that the plants presently burning anthracite pea coal be converted to burning No. 2 buckwheat with the installation of mechanical retort stokers and a wind- and weather-sensing utilization control.

No. of Boilers/Plant (Required at Peak)	Application Point (Tons/Year/Plant)	Maximum (Tons/Year/Plant)
1	45	64
2	84	117
3	122	189
4	161	239

(2-C) For those plants presently burning anthracite pea coal with annual consumptions between the limits indicated below, it is recommended that thermostat-controlled check and ash dampers be installed.

No. of Boilers/Plant (Required at Peak)	Application Point (Tons/Year/Plant)	Maximum (Tons/Year/Plant)
1	14	44
2	25	83

(2-D) Below the Application Points indicated in recommendation 2-C, no major changes in equipment are warranted in heating plants.

*The following recommendations are*



for plants presently burning No. 1 buckwheat for heating:

(3-A) It is recommended that those high- and low-pressure heating plants which presently burn No. 1 buckwheat be converted to burn No. 2 buckwheat. In order to use this smaller size coal, it will be necessary to install blowers to compensate for the increased air resistance of the fuel bed. Such conversions should be made above the following Application Points:

No. of Boilers/Plant (Required at Peak)	Application Point (Tons/Year/Plant)
1	98
2	181
3	275
4	348
5	430
6	516

(3-B) Plants burning No. 1 buckwheat and having annual consumptions between the limits given below should continue to burn No. 1 buckwheat and should have installed mechanical modulating steam-pressure-controlled check and ashpit door hampers.

No. of Boilers/Plant (Required at Peak)	Application Point (Tons/Year/Plant)	Maximum (Tons/Year/Plant)
1	30	97
2	58	180
3	89	274
4	117	347
5	147	429
6	176	515

(3-C) Those plants which fall below the Application Points indicated in paragraph 3-B above should not receive installation of new combustion equipment or controls.

(3-D) It is recommended that, after conversion to No. 2 buckwheat (see recommendation 3-A), all plants above the Application Points indicated below be equipped with "packaged" automatic balanced draft controls. The more expensive packaged control is required in larger plants for greater accuracy and power.

No. of Boilers/Plant	Application Point (Tons/Year/Plant)
1	415
2	825
3	1,240
4	1,655
5	2,065
6	2,480
7	2,895

(3-E) It is recommended that, after conversion to No. 2 buckwheat (see recommendation 3-A), all plants between the Application Point maximums indicated below be equipped with automatic balanced draft controls.

No. of Boilers/Plant	Application Point (Tons/Year/Plant)	Maximum (Tons/Year/Plant)
1	235	414
2	450	824
3	665	1,239
4	880	1,654
5	1,095	2,064
6	1,310	2,479
7	1,525	2,894

This equipment is made up of two parts, that which controls the over-fire draft and that which controls the forced draft blowers.

(3-F) It is recommended that those low-pressure No. 1 buckwheat coal-burning heating plants which presently require firemen in constant attendance be converted to automatic oil-burning if sufficient personnel can be eliminated to justify the initial expense. In plants where the firemen have other duties than tending the boilers, it may not be possible to eliminate sufficient labor. Conversion from coal to oil is generally not economical unless reduction in labor can be made. Sufficient labor should be retained to provide one shift a day for maintenance.

*The following recommendations are for plants presently burning No. 2 oil for heating:*

(4-A) It is recommended that all plants above the following Application Points which are presently burning No. 2 oil be converted to burn No. 6



oil by the installation of rotary cup burners and other necessary equipment. These plants should be equipped with weather-sensing utilization control. These Application Points are based on replacement of all equipment except oil tanks.

No. of Burners	Application Point (Gallons/Year/Plant)
1	35,400
2	42,800
3	48,700
4	56,100
5	61,800

(4-B) It is recommended that all plants below the Application Points shown in 4-A above, which presently burn No. 2 oil in rotary cup burners, be converted to burn No. 4 oil. This involves only the readjustment of the burner and no major capital expenditure is involved in this conversion. A wind- and temperature-sensing utilization control is recommended.

(4-C) It is recommended that all plants with annual consumptions falling between Application Point and maximum indicated below which presently burn No. 2 oil in gun-type burners have installed a Cleaver-Brooks "Hev-E-Oil" Burner. This burner is a modulating gun-type burner capable of burning No. 2 to No. 5 oil inclusive. It is equipped with a built-in oil preheater. A separate oil circulating pump is necessary. A weather-sensing utilization control should also be installed in these plants.

No. of Burners	Application Point (Gallons/Yr./Plant)	Maximum (Gallons/Yr./Plant)
1	7,800	35,300
2	14,200	42,700
3	20,500	48,600
4	26,800	56,000

(4-D) It is recommended that all plants which have an annual consumption within the limits indicated below and which presently burn No. 2 oil continue to burn this fuel, as conversion to

a heavier oil would be uneconomical. However, weather-sensing utilization controls should be added to these plants to reduce fuel consumption.

No. of Burners	Application Point (Gallons/Yr./Plant)	Maximum (Gallons/Yr./Plant)
1	3,500	7,700
2	3,600	14,100
3	3,700	20,400
4	3,900	26,700

(4-E) It is recommended that plants whose annual consumption of No. 2 oil falls below the Application Points indicated in 4-D above should have no major alterations made to their combustion or utilization systems.

*The following recommendations are for plants presently burning No. 4 oil for heat:*

(5-A) It is recommended that plants having annual consumptions of No. 4 oil above the Application Points listed below be converted to burning No. 6 oil by the installation of rotary cup burners, oil preheating, and other necessary equipment and the addition of a weather-sensing utilization control. These Application Points are based on replacement of all equipment except oil tanks.

No. of Burners/Plant	Application Point (Gallons/Year/Plant)
1	61,000
2	73,800
3	84,000
4	96,800
5	106,900

(5-B) It is recommended that plants having annual consumptions between the Application Point and the maximum given below should continue to burn No. 4 oil, but should have installed a weather-sensing utilization control.

No. of Burners	Application Point (Gallons/Yr./Plant)	Maximum (Gallons/Yr./Plant)
1	4,400	60,900
2	4,700	73,700
3	4,800	83,900
4	4,900	96,700



(5-C) It is recommended that plants having annual consumptions below those listed in recommendation 5-B should continue to burn No. 4 oil; no major changes to the combustion and utilization system are warranted.

*The following recommendations are for plants presently burning No. 6 oil:*

(6-A) It is recommended that plants having annual consumptions above the Application Points indicated below, which presently burn No. 6 oil, have installed an electric-eye combustion control which will automatically adjust the fuel/air ratio to produce high CO<sub>2</sub> in stack gases in accordance with haze density.

No. of Burners/Plant	Application Point (Gallons/Year/Plant)
1	61,200
2	122,400
3	183,500
4	244,700
5	305,900

*Following are several maintenance and special recommendations:*

The maintenance recommendations have a very real importance, if coupled with efficient supervision. They might readily amount to 5 percent of the total consumption.

(7-A) It is recommended that a regular program be established for the cleaning of boiler heating surfaces. It can be stated generally that the heating surfaces should be cleaned at least once a month and, in many cases, weekly or semi-monthly.

(7-B) It is recommended that a regular check of stack temperatures and the CO<sub>2</sub> content of stack gases should be made and the fuel air ratio of oil burners and stokers be adjusted to maintain highest possible combustion efficiencies.

(7-C) It has been noticed that, in some plants investigated, considerable

excess air was permitted to leak into the combustion space because of leaks or improperly fitted over-fire or ashpit doors, etc. Admission of air in this manner may reduce efficiency. Such leaks should be eliminated.

(7-D) It is recommended that barometric dampers be installed in all oil-burning plants where physical conditions and draft permit.

(7-E) It is recommended that plants burning No. 6 oil institute a regular program of maintenance on preheaters and burners to remove sludge and impurities. In some instances, use of No. 6 oil has been discontinued in plants designed for this fuel because there is insufficient maintenance personnel for this work. This procedure results in an increase in operating costs.

(7-F) Although changes to utilization systems are not included in this survey, it should be noted that there is a possibility of labor-saving by conversion from high-pressure to low-pressure operation, provided that boiler auxiliaries are or can be operated electrically and that steam piping is of sufficient diameter to permit operation at low pressure.

(7-G) Where there are gas-fired *central* heating systems, there is a possibility of conversion to oil at considerable reduction in fuel cost. Where buildings are presently heated by gas-fired unit heaters and radiators, conversion to oil will generally not be economical because of the high cost of installing a central heating plant in existing structures.

**Methods of Heating System Control**

Heating systems in the New York City area are generally designed to provide enough radiation to maintain inside temperatures at 70 degrees F., when the outside temperature is zero degrees



F. with wind blowing at 15 miles per hour. The following table indicates the number of minutes per hour that steam is required in such heating systems at various outside temperatures and the percentage wasted if heat is on constantly.

Outside Temperature	Minutes/Hour Steam is required	Percent Wasted if Steam is on at All Times
0° F.	60	0
10	51	15
20	42	30
30	32	47
40	23	62
50	14	77
60	5	92
65	0	100

At wind velocities in excess of 15 miles per hour, demand for heat increases rapidly. For this reason we recommend use of wind and outdoor temperature-sensing controls.

Building heat can be controlled in one of two ways: either by modulation of a continuous supply of heat or by regulating the average amount of heat supplied by an on/off or cycling operation. The available modulating systems are warranted only in large or new installations.

**On/Off Room Control** — (a) Thermostats may be employed to control the radiators in each room; and (b) self-contained thermostat radiator control valves may be installed on each radiator.

Although these two methods of control have the advantage of flexibility of operation, they are susceptible to wasteful practices if settings are high. Unless buildings already have control systems of this type installed, it is not recommended that they be provided.

**On/Off Central Control by Use of Inside Thermostats**—Inside thermostats can be employed to control the operation of stokers, oil burners, electrically-operated check and ash pit door dampers, or

forced draft blowers; or can be used to control motor-operated steam valves. Except in small buildings, this method of control is undesirable, but has the advantage of low initial cost.

**Zone and Central Control Cycling Devices**—Zone or central controls are generally divided into those devices which control by program clocks, timing cycles, outside temperature, inside temperature, or by a combination of these factors.

We have determined that, where building zoning does not presently exist, it is generally uneconomical to alter steam lines and install motor-operated zone control valves. In special cases individual engineering studies should be made to determine the cost of zoning and the benefits to be derived. Further discussion is limited to central control, that is, control of a building which consists of only one steam zone.

There are available many cycling controls, varying in cost and in the method of operation. We consider that controls of this type should be sensitive to outside temperature and wind, should provide means of insuring that the last riser or radiator receives heat before cycling is initiated, and should be fitted with a programing clock which automatically shuts down the heating system during night and week-end periods.

When such cycling devices are installed, it is most economical to have them control the source of firing, that is, operate directly on the oil burner, stoker, or forced draft blowers. This can be done only when a constant supply of steam is not required for domestic hot water and forced air heating systems.

Although there are many good systems of controlling building heat, we have limited our consideration to certain types of devices because their cost does not vary greatly with the size of



the installation to which they are applied. These controls are the outdoor wind- and temperature-sensing cycling controls and the indoor thermostat-controlled check and ash door dampers.

### **New York Steam Corporation Service**

Our contract with the City states that: "Where steam is now produced in plants where New York Steam Company service is now available, the Engineers shall report on the probable advisability of substituting New York Steam Company service . . ."

The following nine City buildings are adjacent to steam lines: (1) Stuyvesant High School, 345 East 15th Street; (2) Central Commercial High School, 215 East 41st Street; (3) Murray Hill High School, 237 East 37th Street; (4) Mabel Dean Bacon Vocational High School, Second Avenue and 15th Street; (5) P. S. 135, 931 First Avenue; (6) P. S. 29, 16 Albany Street; (7) High School of Commerce, 145-71 West 65th Street; (8) New York Public Library, 40-42nd Street and Fifth Avenue; (9) American Museum of Natural History, 180 Central Park West.

On the basis of the New York Steam Corporation's estimated revenue obtained from supplying these buildings with heating service and our estimates of 1949-50 fuel cost, we do recommend that a study be authorized to determine the possible economies to be made by substitution of New York Steam Corporation service for existing facilities.

Another factor to be considered in connection with this suggestion is the better controls which can be maintained over smoke pollution under a program of steam purchase.

In addition, it should be pointed out that a 20-inch high-pressure steam-transmission main runs under Welfare

Island in the Metropolitan Hospital, Girls Camp area.

On the basis of the present schedule of rates, it would not be possible for the City of New York to buy steam from the New York Steam Corporation instead of producing it at the Goldwater Plant.

Talks with New York Steam Corporation personnel lead to the belief that there is a reasonable possibility that continuance of present negotiations might lead to establishment of a schedule of rates which would make it possible for the City to utilize New York Steam Corporation service for many of its largest hospitals, especially if there were also a possibility of shutting down electrical generating plants in those hospitals that now use them.

We therefore recommend that consideration be given to authorizing continuance of negotiations and studies.

With regard to the possibility of furnishing New York Steam Corporation service to Jacob Riis and Lillian Wald housing projects, see recommendations of this Report under "New York City Housing Authority."

### **Invitations to Manufacturers**

Manufacturers of standard heat control apparatus were invited to make tests on selected buildings, to demonstrate what specific economies could be made through the installation of heat control devices and what the cost of such installation would be.

Eight of the larger manufacturers of such apparatus were requested to survey and submit proposals for our approval on the cost and probable benefits of the installation of their equipment in these buildings. At the time that this Report is going to press, no replies to this request have been received. Should they



be received after submission of this Report, we shall advise the City on the value of conducting such tests.

### **Method of Purchasing Fuels Through the Department of Purchase**

Following is an outline of the method by which fuels are purchased through the Department of Purchase:

(1) The amount of money allotted to each department for the purchase of fuels in each annual budget is established and justified to the Director of the Budget by the department and submitted to the Board of Estimate. Upon approval of the budget, the funds allotted for the purchase of fuels are established in a "General Purchase Fund" under the control of the Department of Purchase. The amounts allotted to each department for the purchase of fuels retain their identity and there can be no interchange of funds between departments. This General Purchase Fund does not include funds for the purchase of steam or gas. The funds are not carried over beyond the end of the fiscal year and, if any amount remains, it is transferred to the "General Fund" and loses all previous identity with any department.

(2) The Department of Purchase prepares four proposals on which approved contractors may bid: (a) coal delivered by truck; (b) coal delivered by barge or rail; (c) oil delivered by truck; and (d) oil delivered by barge. The City is divided into six areas: Upper and Lower Manhattan and the remaining four Boroughs. Contracts are awarded

to the lowest bidder in each of these areas, provided that the contractor meets all necessary qualifications.

(3) As fuel is required at different locations in various departments, requisitions are prepared by the requisitioning department and copies are sent to the Department of Purchase which assigns a requisition number. An order is then written by the Department of Purchase which specifies only the amount of money which is being reserved in the General Purchase Fund for fuel purchases by the requisitioning department. A copy of this order is sent to the contractor. The requisitioning department then contacts the contractor directly to specify the type of fuel, quantity, method, point, and date of delivery, and the contractor must then make shipment of fuel up to the dollar value specified by the covering order. The Comptroller's inspector is notified when and where the shipment is to be made and inspects shipments as to conformance with contractual agreement.

No summarized record is kept by the Department of Purchase as to the actual amounts of fuel received by each requisitioning department or the dollars actually spent for each plant. The only figures that it has are the amounts authorized for expenditure, as its prime function here is to prevent expenditure beyond the authorized amount.

The fuel specifications prepared annually by the Department of Purchase are satisfactory and no changes in their preparation are recommended.

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## SECTION 2

**ACTION OF THE MAYOR'S COMMITTEE**

(1) The Mayor's Committee has already transmitted the separate departmental Reports to the departments concerned, and urges that the operating management in these departments study and take steps to implement the recommendations for increased efficiency of the combustion of fuel, the more economical utilization of steam for heat, power, and auxiliary purposes, and the more efficient utilization of labor in the burning and handling of fuels and the delivery of steam.

(2) While the engineers' assignment excluded the relative advisability of isolated power plant vs. central station service, we note their remarks that significant savings will be possible by the shutdown of electric generating plants in some City hospitals, and urge that this matter be investigated further by the Department of Hospitals.

(3) The engineers find that New York Steam Corporation service could profitably be applied to numerous buildings owned or operated by the City, and we urge that investigations and negotia-

tions with the utility be undertaken (or continued, where already under way). We call special attention to the engineers' opinion that negotiations might lead to a schedule of rates which would make it possible to utilize such service for many of the largest hospitals, especially if there is a possibility of shutting down electric generating plants in those hospitals that now use them.

(4) We recommend the creation of an Engineering Supervision Division within the Bureau of the Budget, to act as consulting engineers on fuel use and plant operation for the City agencies and to provide the engineering services specified in the P. R. Moses Report and suggested by Dean Mario Giannini to the Committee, especially the carrying out of the recommendations of the Report. The salaries paid to technical personnel in this division should be equal to those paid for similar jobs in private industry. The division should be headed by an engineer with extensive practical experience in combustion and utilization processes.

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## CHAPTER XI

# Transportation

### EDITORIAL NOTE

Formulation of the studies of the Board of Transportation to be undertaken by the Mayor's Committee was begun in the spring of 1950, at a time when the transit system was in the throes of one of its periodic labor crises. The New York City Transit Fact-Finding Board, David L. Cole, Chairman, had been appointed on January 9, 1950, and was in the midst of its hearings. This Board reported on May 31, 1950, and added its voice to those calling for a comprehensive study of the Board of Transportation's organizational structure, operational methods, equipment, labor, and personnel standards. It also called for the working out of a program for achieving a 40-hour week for transit workers, and the development of a "memorandum of understanding" between management and labor.

Because of the work of the Cole Board and the negotiations immediately undertaken by the Board of Transportation leading toward the memorandum of understanding, it was decided that the Mayor's Committee on Management Survey would not include in its project a separate study concerned solely with labor relations, although it was understood that its general management and engineering studies would necessarily include observations and recommendations on personnel matters and labor relations.



Also specifically excluded, on the grounds that they were matters of City policy not directly part of a general management survey devoted primarily to efficiency and economy, were studies of subway and bus fares and extensions of service. These matters, however, present basic questions with serious impact upon the City's fiscal situation, and cannot be ignored in the final conclusions of the Mayor's Committee. The impact of fare increases upon the City's fiscal situation is discussed in some detail in the general summary volume on the finance study, digest of which appears in Chapter IV of this volume. This discussion in turn rests upon detailed monographs on the subject separately published by the finance group, as listed in its general summary volume. In addition, Headquarters Staff undertook intensive statistical analysis of the effect of fare increases. All these additional investigations are reflected in the over-all conclusions of the Committee as set forth in Volume I, and in the remarks on transportation included in Chapter III of this volume.

The general management and engineering survey as defined above was of such magnitude that it was felt best to place it in the hands of a group of well-known management and engineering firms, rather than to have one firm undertake complete responsibility. Accordingly, the review of organizational structure, operating methods and equipment, and management controls was undertaken by Day & Zimmermann, Inc., and Coverdale & Colpitts, under a joint venture arrangement. These two management-engineering firms produced a joint Report, digested in Section 1 of this chapter.

At the request of the Board of Transportation, the engineers were asked to add as part of their assignment a special Report on developing a program for achieving the 40-hour week stipulated by the Cole Board. The Mayor's Committee considered this a strict operating problem involving the specific assignment and scheduling of individual duties, subject to negotiations with the unions involved, and not a part of its own over-all management survey. Accordingly, the separate Report on this subject, finished in May of 1951, later substantially modified by the Board of Transportation, is not digested here.

The study of power, including modernization needs and forward planning, was undertaken by The J. G. White Engi-



neering Corporation, and the digest of its Report appears as Section 2 of this chapter.

While the engineering studies were formulated by the Mayor's Committee at the express request of the Mayor, the contracts as finally drawn were between the engineers and the Board of Transportation. The Board thereupon assumed direct supervision over the work. Accordingly, these Reports should be considered in a somewhat different class from the other studies under the aegis of the Mayor's Committee on Management Survey.

It is to be noted that in its final section on transportation, as given in Section 3 of this chapter, the Mayor's Committee departed from the top organizational moves recommended by Day & Zimmermann and by Coverdale & Colpitts (who, in this one instance, entered an opinion differing from that of their joint associates). The Committee also recommends caution with respect to the J. G. White recommendations for construction of additional power generating plants.

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## SECTION 1

# ORGANIZATION AND OPERATION

BY

DAY & ZIMMERMANN, INC.

AND

COVERDALE & COLPITTS

New York City's transit system, by far the largest in this country, represents an investment of over \$1,700,000,-

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Digest from "Joint Report of Engineers on the Organization, Methods and Procedures of the Board of Transportation and Its Various Departments, Its Facilities and Its Operations, the Board of Transportation of the City of New York, N. Y.," by Day & Zimmermann, Inc. and Coverdale & Colpitts, November 5, 1951.

000 with a net outstanding transit debt on June 30, 1950, of \$969,000,000. It carries about 2,300,000 revenue passengers a year, collects over \$206,000,000 in revenue, and has a staff of approximately 42,000 employees.

The Rapid Transit System of subway and elevated lines carries nearly three-quarters of the system traffic and includes some 140 route miles of subway



and 97 route miles of elevated tracks. In addition to power stations, substations, transmission and distribution facilities, signal systems, shops, car-houses and yards, the system has about 740 miles of running track and 6,957 passenger cars.

The Surface System of motor buses, trolley coaches and trolley cars, carries about one-fourth of the total passenger traffic handled by the New York City transit system, and slightly less than the traffic transported by privately owned surface systems in the City. The Surface System includes 132 routes and 2,463 passenger vehicles covering 580 one-way route miles, about 80 percent of which is covered by motor buses.

The annual net income, before fixed charges, of the New York City transit system began to decline in the late war years and by the close of fiscal 1948 had become a deficit of about \$31,000,000.

A fare increase helped restore a moderate net income for 1949, but rising costs and falling traffic helped create an operating deficit of about \$1,500,000 in fiscal 1950, which increased to about \$3,020,000 for 1951.

Because of differing dates and amounts of fare increases between Surface and Rapid Transit Systems and differing effects of labor adjustments and acquisition of surface lines, the combined operating results reflect widely fluctuating incomes and deficits of the two systems, as shown in the table at the top of the second column.

The recommendations contained in this Report are offered as an aid to alleviating the present high operating costs through better management. However, costs are continuing to rise so much that the outlook for restoring a balance between earnings and expenses under existing fares appears rather slim.

NET INCOME OR (DEFICIT) IN MILLIONS\*

Fiscal Year	Rapid	Surface	Total	After fixed charges
1941	\$22.3	\$ 5.8	\$28.1	(\$28.0)
1948	(20.6)	( 9.9)	(30.5)	(87.8)
1949	23.5	(10.1)	13.4	(46.4)
1950	9.8	(10.9)	( 1.1)	(64.3)
3 mos.				
1950	6.50	( 8.33)	( 1.83)	
9 mos.				
1951	0.87	( 2.78)	( 1.91)	
9 mos.				

NOTE: In this table, the results of the South Brooklyn Railway Company have been included in the figures for the Surface System.

A Brief History of New York City's Transit Operations

The plan of Unification, which became effective in June, 1940, brought under the City's control and ownership all of the rapid transit lines and nearly half of the surface lines in the five Boroughs. At the same time, it became necessary to consolidate the organization of the three major divisions of the rapid transit lines into the Rapid Transit System, as well as to bring all of the newly acquired surface lines under one head known as the Surface System. Both systems are run as separate departments under the jurisdiction of the Board of Transportation.

After many projects in various stages of design and construction had been left unfinished during the war years, a vigorous program of physical improvements was pressed for the Rapid Transit System beginning in 1946. Many major improvements were made during the past five years.

\*ED. NOTE: For fiscal 1952, the total deficit at this writing is estimated at \$26,000,000; and for fiscal 1953, at \$33,000,000 (excluding pension costs carried by the City, as does the table).



The Surface System was expanded in 1947-1948 by the addition of motor bus operations in Queens, Manhattan, and Staten Island. Although this presented added problems in the consolidation of management and operations, much progress has been made and much is still under way. Rehabilitation of properties and equipment has advanced to a remarkable degree.

Since Unification in 1940, the City has issued about \$200,000,000 of its securities for capital purposes; of this amount, about \$173,000,000 was issued during the past six years. These figures are approximately indicative of the cost of new facilities provided for the expansion and improvement of the system and of the service it furnishes the public. The need for large expenditures must continue to be met if the property is to be kept in shape to operate economically and, at the same time, furnish safe, reliable, and adequate service.

The Board of Transportation has reported the urgent need to begin construction of the proposed Second Avenue trunk line subway in Manhattan, with its connections to existing lines, and related miscellaneous improvements. This project will cost upward of \$500,000,000 and take about six years to complete. On September 13, 1951, the Board of Estimate unanimously approved the project, and a constitutional amendment, granting debt-limit exemption for the \$500,000,000 of City bonds proposed to finance the improvement, is to be voted in November, 1951.\*

The Board of Transportation was also authorized to make an offer of \$8,500,000 for the Rockaway Beach branch of the Long Island Rail Road, to be incorpo-

rated into the City transit system at a total estimated cost of \$42,000,000, including reconstruction.

The number of revenue passengers carried on the system increased from 2,240 million in 1941 to a high of 2,663 million in 1948; then, following a fare increase, this began to decline until, in 1951, the number was only 2,226 million.

Passenger revenues totaled \$112,000,000 in 1941, and \$201,000,000 in 1950. A comparison of the total revenue dollars of 1941 with that of 1951 shows two salient features: (1) in 1941 the operating surplus before fixed charges was equivalent to some 24 percent of the total revenue, whereas in 1950, in spite of higher fares, rising costs of operation resulted in an operating deficit equivalent to 0.6 percent of total revenue; and (2) the item of salaries and wages, which required 52 percent (\$60,000,000) of the total revenue in 1941, required some 73 percent (\$152,000,000) thereof in 1950.

### Present Conditions

Included in operating expenses is an annual provision of \$3,000,000 for deferred maintenance. This was originally set up as a maintenance equalization reserve, but in recent years it has been used to finance capital expenditures as well. During the two-year period ending June 30, 1950, capital expenditures of \$7,919,000 were charged against the reserve, including the cost of 240 buses purchased in 1949. As of June 30, 1950, there was a balance of \$4,190,000 in the reserve.

No provision is made for depreciation in the ordinary sense of the word, since no fixed capital accounts are carried on the records; in fact, the only provision is by way of charging certain replacements to maintenance. Amortization of

\*ED. NOTE: This amendment was approved by public vote subsequent to the receipt of the engineers' Report.



debt incurred for capital purposes is provided for by the City, but such charges are not reflected in the income statements of the Board's operations.

Expenses and revenues in 1950 were, respectively, 2.4 and 1.8 times what they were in 1941, the initial year of Unification.

Reports for the fiscal year 1951 show an operating deficit of \$3,351,000 (compared with \$1,500,000 in 1950), so it

is obvious that the increases made in some surface transit fares failed to offset the over-all effects of lowered traffic and further operating expense increases.

Net income after fixed charges ranges from a deficit of \$28,000,000 in 1941, to a high deficit of nearly \$88,000,000 in 1948. Following the fare increase of 1948, the years 1949, 1950, and 1951 had respective deficits of \$46,000,000, \$64,000,000 and \$73,000,000.

## THE BOARD OF TRANSPORTATION

The Board of Transportation is composed of three members who are appointed by the Mayor for terms of six years, with one member designated to serve as Chairman during his term of office. There has been relatively little turnover in the Board's membership since its establishment in 1924.

Under the Rapid Transit Law, the Board has very broad powers which include (in addition to the responsibilities for operation and maintenance of the Transit System, as it exists or as it may be augmented) the duty to plan for and—subject to approval of the Board of Estimate, the Mayor, and the provision of funds by the Board of Estimate—to construct or acquire additions and extensions to the system. Specific provisions are made under the law for such matters as accounting, handling and disposition of revenues, rates of fare, and the establishment of regulations governing the work and conduct of its employees. The Board is empowered—subject to the approval of the Mayor—to fix the rates of fare, but changes may be made effective only upon the first day of the next fiscal year.

The Board acts as an agent of the City in the operation of the system, with its employees entitled to the bene-

fits of the City's retirement system and the protection of the Civil Service Law. However, in addition to those already mentioned, certain controls are prescribed by the law. They regulate payments from operating and capital funds, the making of contributions to specified sinking and reserve funds, and require the submission, for approval by the Board of Estimate, of annual operating and capital budgets.

In spite of the broad powers of the Board, its practice is to confer with the Mayor, members of the Board of Estimate, and heads of City departments on any important matters affecting the City's interest in transit and related fields.

The three Commissioners are charged jointly and severally with the responsibility for operation and continued development of the City's transit system. Each has an equal vote on any matter requiring action, with a majority being required to exercise any power of the Board. The Board is required to hold at least one meeting each month, with recent practice being to hold a formal meeting each week and special meetings as required.

Many of the matters appearing on the Board's calendars are relatively trivial



and should be disposed of at lower levels. This situation is aggravated by the number of departments presently reporting directly to the Board. Much of the work could be processed by delegation to department levels, with appropriate over-all control by an executive between the Board and the departments concerned.

There is also a need to strengthen the upper echelons of the operating organization by adequate staff with understudies and recognized lines of succession.

### **Basic Aspects of the Board's Operation**

The transit situation in New York City presents a number of basic aspects which have an important bearing upon the functioning of the Board of Transportation. In reaching conclusions and making recommendations, these aspects must be recognized and borne in mind. They include such major items as:

(1) Municipal ownership and operation of the largest urban transportation system in the country, with unusual service requirements and substantially static total traffic volume.

(2) Municipal operation under specific directions imposed by the Rapid Transit Law and subject to Civil Service and other municipal regulations.

(3) Growing demands of labor, which impose restrictions on managerial direction, tend to decrease the effectiveness of labor, and result in continued and alarming increases in the total cost of labor.

(4) Impracticability of compensating employees competitively with private business.

(5) The necessity for providing vast sums from the City Treasury for improvements and extensions (without return on capital from the revenues of the system) and, in recent periods, for meeting ever mounting operating deficits.

It is apparent that the members of the Board are thoroughly conversant with the problems of the system, operating and otherwise, and that they contribute, without stinting time and effort, to the solution of those problems. Although the system has been operated effectively under the conditions imposed, a freer perspective would lead to a greater over-all effectiveness.

However, our observations and studies of the functioning of the present top organization set-up lead us to the definite conclusion that changes should be made in the constitution and functioning of the Board.

### **Proposed Enlargement of the Board**

It is our opinion that consideration should be given to enlarging the Board by two additional members. This would tend to insure continuity and also divide more evenly and effectively the heavy responsibilities and work load now carried by the three-member Board. Presently, there is insufficient diversity among the Board members, not only in operating matters but also in voting on questions of basic policies.

Collectively, the backgrounds of the five-man Board should reflect experience in management, accounting, engineering, as well as in legal matters and labor and public relations. As at present, one member of the enlarged Board should be designated by the Mayor as Chairman during his term of office. The five classifications of the functions involved (and the Mayor, in making appointments, should have due regard for them) are as follows:

- (1) Finance and accounting.
- (2) Employee and public relations.
- (3) Operations, including rapid transit, railway, and omnibus.



(4) Legal matters.

(5) Power production and distribution and engineering.

The members would naturally inform themselves regarding matters in which they were best qualified by knowledge and experience, and thus would bring to the meetings of the Board the most helpful understanding of problems and judgments with respect thereto.

The annual salaries of Board members other than the Chairman should be fixed at \$30,000 each; the Chairman's annual salary should be \$35,000.

Each of the five members of the Board should be provided with a special assistant—one to be furnished by each of the five major departments—selected on the basis of qualifications and suited to act in liaison capacity between the respective Commissioners and the operating organization. These assignments should be for indefinite periods and, for incentive purposes, rotated among the operating personnel of the respective departments.

### **Provision for a General Manager**

We further recommend that the position of General Manager be created and that all of the departments of the system be under his general direction. However, the General Counsel would report directly to the Board on major legal questions and to the General Manager on the more routine activities of the Legal Department. Decisions and directives of the Board would be implemented by the General Manager on advice from the Chairman. He should function as the chief executive and be directly responsible to the Chairman of the Board. His compensation should be at least \$25,000 per year.

### **Proposed Departmental Organization**

We recommend that the top organization under the General Manager be di-

vided into five major groups, and that increased responsibility for the details of operation be vested in the following department heads:

(1) Director, Finance and Accounting.

(2) Director, Employee and Public Relations.

(3) Assistant General Manager.

(4) General Counsel, Legal Department.

(5) Chief Engineer, Engineering Department.

Another important recommended change has to do with the operation of the Surface Lines. The magnitude of this operation justifies, in our opinion, the proposed assignment of individuals who would carry the rank of Assistant General Superintendent and head the Transportation and the Maintenance sections of the Surface System. The man in direct charge of all surface operations should, therefore, carry a higher rating than that of Assistant General Superintendent and be on a parity with the man carrying similar responsibilities for the rapid transit operations.

While the recommendations as stated would add to the administrative payroll burden, the cost would not be large considering the magnitude of this enterprise. We strongly recommend the adoption of the proposed enlargement and realignment of the top organization, thereby establishing lines of responsibility essential for proper executive and administrative management and control of the operations.

Messrs. Coverdale & Colpitts do not fully concur in all items of the conclusions and recommendations set forth above and express their views as follows:

"We are of opinion that the Board of Transportation should consist of five members appointed for long



terms and for known character, recognized business ability and standing in the community. One of these members would be a Chairman devoting full time to the undertaking and compensated accordingly. The other four would serve on a part-time basis. Serious consideration should be given to a corporate form of organization.

"The Transit Corporation would be a creature of the City of New York, with power to fix rates of fare and service subject to the City authorities. The Board might take a form similar to the Port of New York Authority, the Chicago Transit Authority or the Metropolitan Transit Authority in Boston, without conforming in all respects to any one of these three."

## THE EXECUTIVE AND ADMINISTRATIVE DEPARTMENTS

The departments studied are presented under four headings, viz., Executive, Administrative, City, and Miscellaneous Operating Departments. Collectively, they have a present quota of some 4,100 employees, equivalent to about 10 percent of the total number employed by the Board, with an annual payroll of some \$15,000,000.

### The Executive Departments

**Secretary**—Under existing conditions, the Secretary's office and its attendant divisions are well operated and are not overstaffed. The maintenance of certain personnel records relating to rank and file employees seems to be an unwarranted duplication of similar records available in the Personnel Department. If, as recommended by us, the responsibility for decisions regarding many details were shifted from the Board to the department executives, the Secretary's staff could be materially reduced, with but negligible increases required in the other departments concerned.

**Deputy Commissioner**—The employee grievance procedure, as administered by the Deputy Commissioner, has been effective, and the department is functioning in a generally efficient manner. However, its activities and authority have been in only a minor portion of the labor relations field, and we recommend

the establishment of a major department of Employee and Public Relations, with a Director reporting directly to the General Manager. This recommendation is covered more fully later.

**Counsel**—The Legal Department is, and we believe should continue to be, one of the principal departments of the Board. It is under the direction of Counsel, who functions both as legal advisor to the Board and as head of the department with its general law, employee trials, real estate, and workmen's compensation divisions. Conclusions with respect to this department are presented in connection with the administrative departments.

**General Superintendent**—The General Superintendent is the chief operating officer for the Board; he is supported by a sizable administrative and office staff. Now reporting to him are 16 divisional or department heads and major staff assistants; this is an excessive number for sound organizational control, and constitutes a situation calling for a wider delegation of his duties. We recommend, as a needed strengthening of his top operating organization, the addition of two administrative assistants to his staff, an Assistant General Superintendent of Rapid Transit Transportation, and four understudies to the Assistant General Superintendent, at an added payroll cost of about \$70,000.



**The Chief Engineer—Engineering Department**—The activities of this department are concerned primarily with the planning, design, and construction of improvements and additions to the City's system; the preparation of cost estimates, etc.; the supervision of construction contracts; and related matters. Only about 5 percent of the \$4,000,000 payroll budget is charged to operating expense. The department is well organized and ably directed, and the accumulated experience in it is an asset of great value to the system, particularly in the field of subway design and construction.

With certain exceptions, such as the power problem, the department can render generally a better performance than outside engineers.

As of January, 1951, there were 160 vacancies out of 975 budgeted positions. We believe a further reduction of about 25 percent in the staff is feasible, with payroll savings of \$1,000,000.\*

**Power Operations and Engineering**—Our study of this department was limited by our assignment to the top personnel and the co-ordination of activities with other departments. The upper levels of the department seemed to be completely staffed and the work well organized, with appropriate contacts, through the General Superintendent, between the transportation divisions using power and the Maintenance of Way Department. An awareness of the need to control costs was evidenced by the current availability and utilization of suitable records.

### **The Administrative Departments**

**Legal**—The department appears well equipped to supply the general legal

services required by the Board. The Real Estate Division is in need of reorganization, strengthening, and definite policy directives. Increased and more effective efforts to sell City-owned property, not required to be held for transit purposes, are recommended. The present large volume of formal disciplinary trial work should be reduced by the settlement of more discipline cases at a departmental level, with consequent strengthening of the position of the supervisory forces and improvement of supervision and general efficiency of operation. We believe workmen's compensation costs can be reduced, partly in this department, but chiefly in the Medical Department. Adjustments and changed procedures could effect a payroll saving of about \$35,000 a year.\*

**Accounting**—The accounting functions required in the operation of a modern transit system are, in general, being carried on by the department, although in many instances the methods and procedures can be improved. Certain requirements of the Rapid Transit Law as to classified property cost records and the provision of a depreciation fund have not been met. Some records are being kept which serve only a limited purpose, if any, and they should be eliminated. On the other hand, there is need for some additional current statements which, in form, substance, and time of availability, would be such as to make them of maximum use for operating control, including particularly divisional breakdowns of rapid transit operations.

\*ED. NOTE: The Budget Bureau advises that as of July 1, 1951, budgeted positions were reduced to 889, and that as of December 31, 1951, there were 236 positions unfilled. This represents a reduction of about 20 percent in filled positions from the January, 1951, status.

\*ED. NOTE: The engineers have advised that the statement in the published Report to the effect that the staff of the Legal Department has more than doubled in the past five years is incorrect since certain functions now carried on by the department were performed in 1945-46 by staffs assigned to other budgets. The actual increase is about 9 percent.



We recommend simplification of the present handling of vouchers and checks through the City Comptroller's Office, strengthening of the stores auditing procedures, and study of opportunities for greater use of tabulating equipment and machine accounting. There is evidence of general overstaffing; with more aggressive administration, better supervision, and modernized procedures, an annual payroll saving of more than \$150,000 could be effected.

**Revenue**—The collection, handling, and accounting for passenger revenues involves the services of nearly 5,300 employees (exclusive of Surface Line operators), with an annual payroll of nearly \$18,000,000. The major portion of the cost is in fields outside of the Revenue Department, and changes in methods and procedures looking to major economies must deal with problems largely on a system basis. They can be resolved only by extended detailed studies.

We find that the present procedures afford reasonable protection to the employees involved and to the revenues, being in line with general practice, and that fidelity-bond coverage is adequate. The changes in the methods of handling revenues, recommended for detail study, are offered as desirable primarily from the viewpoint of large potential system economies. They include the substitution of 6-day for 7-day operation of revenue trains, collections on alternate days from light revenue stations, the possible combination of trash and revenue trains, and related matters. These studies should be instituted promptly and would fall naturally within the scope of the proposed new Systems Department. We also recommend that the possibilities of working out an agreement with one of the banks, to take space in the new Brooklyn Headquarters

Building and assume the work of counting daily receipts in return for the maintenance of a certain level of balances, should be explored thoroughly.

In addition, the total costs, involved under what now appear to be essential practices, will remain so large that we recommend the prompt institution, by the proposed Systems Department, of a continuing study looking toward the development of new fare-collecting equipment and procedures leading to less costly methods of meeting the problem of collecting, handling, and accounting for passenger revenues.

**Payroll**—Considering present procedures and conditions, we believe this department is being operated efficiently, but that its burden could be lightened considerably by a rearrangement of payroll weeks and payment dates to reduce the peaks and equalize the loads. Duplications in staff, and in Board expense, could be reduced by having the auditing and checking functions, presently performed by the City Comptroller and the Civil Service Commission, done by deputies stationed at the Board offices. We also recommend the early completion of the work that has been started looking toward extension of centralized timekeeping, and that a detailed investigation should be made of putting the entire payroll operation on tabulating machines.

**Purchase and Stores**—We believe the purchasing function is being well performed, but that the stores function is in need of much strengthening. It would be in the interest of good administration to separate the two, having the head of each report directly to an administrative officer in charge of all financial and accounting matters.

The needs to be met include a determination of what supplies are to be under stores control, a standardization



of stores items and symbols as an initial step toward centralized accounting and reorder control, a wider utilization of machine accounting, periodic analyses of inventory turnover to permit stock requirements and reasonableness of use to be gauged, adequate barriers and watchman service at storerooms and yards, and adequate audit and inventory procedures. We recommend that the proposed Systems Department be charged with making a comprehensive study of the entire stores situation and with developing procedures to meet the needs, including the preparation of a manual covering all stores operations. In addition to ultimate payroll economies, the program should result in a sounder stores situation and reduced investment in inventories.

**Budget**—The work of the Budget Bureau is well organized and executed. However, the general approach to the preparation of the budget is too stereotyped and its form and subsequent use fail to give results commensurate with the work involved. We recommend that the budget form be revised to show expenses in accord with the prescribed classification of accounts by departments, divisions, and subdivisions in order to facilitate unit cost comparisons; that duplication of detailed payroll statistics now available in the Personnel Department be eliminated; and that at least some of the special studies be transferred to other departments.

The recommended changes should result in a more effective budgetary control and do so at a net potential saving of about \$50,000 per year.

**Medical**—The medical services presently furnished to employees are part of system-wide efforts to minimize operating losses due to lost time, sickness, compensation payments, and lowered morale. These services appear broader

than those usually supplied by public utilities and, in contrast with an increase of about 21 percent in the number of employees in the system, the number of employees in the department has more than doubled in the past five years. The current costs, about \$5.30 per case or \$10.76 per employee, are relatively high and appear to be rising. They can be lowered by reducing the number of clinics, substituting more first-aid stations, and making wider use of local hospitals. Detailed study will indicate potential economies in the order of \$50,000 per year without diminishing the effectiveness of the medical service.

**Personnel**—The work of this department is being conducted in an efficient manner, but the volume of work is greater than it should be due to duplications of records within the department, between the department and the Secretary's Office, and between the department and the Civil Service Commission. A number of the internal duplications are avoidable and should be eliminated. The annual payment by the Board to the Civil Service Commission consisting of a net charge of about \$130,000 could be materially reduced. The installation and use of properly conceived tabulating equipment would facilitate the keeping of employee records in improved form, add to their usefulness, and enable a reduction in personnel and cost in the order of \$50,000 a year, net of the cost of the equipment.

### City Departments

Some services are performed for the Board by its own employees, assigned to work under the direction of other City departments, and by employees of other City departments for whose services the Board is charged on the basis of payroll



costs. In addition, the Board makes large payments to several retirement systems and a municipal health insurance plan, and for miscellaneous services rendered by City departments.

**Transportation Torts**—This department, with an annual payroll of \$1,270,000, is charged with the investigation, trial, and settlement of claims arising from accidents sustained by the general public in connection with the operation of the City's transit system. In our opinion, the work is well organized; we did find evidence, however, of some overstaffing in both legal and clerical functions, and of a need for eliminating the maintenance of certain detailed records which apparently are no longer used. Potential economies of about \$200,000 per year are indicated.

The annual costs of conducting the work of settlement appear to be a relatively high percentage of the payments made to claimants; this matter is therefore recommended for further study by the management. We also recommend the prompt initiation of a detailed study to determine the adequacy, or otherwise, of the Rapid Transit and the Surface System components of the Reserve for Injuries and Damages.

A need exists for closer co-operation between the Torts Department and the Safety and Transportation Departments of the operating organization to facilitate the development and utilization of accident statistics and of other information secured by the Investigation Bureau of the Torts Department.

**Other City Departments**—The Board of Transportation presently contributes to the administration of the New York City Employees' Retirement System by providing 64 employees, and makes cash contributions on the established basis of \$92 per year per employee. The City also carries on the two pen-

sion funds created by IRT and BMT, prior to Unification. The Health Insurance Plan of Greater New York was made available to employees in 1948. These payments, which amount, in the aggregate, to approximately \$8,800,000 annually, are obligations entered into for the benefit of employees of the Board. There is no indication of reduction in the amounts provided for these purposes. Over a period of years increases will become necessary.\*

In connection with our review of the Personnel Department, we call attention to the desirability of eliminating duplications in records kept by that department and by the Civil Service Commission. Operation under Civil Service, as compared with operation under private ownership, imposes many limitations and restrictions on the functioning of the system. Delays in the holding of examinations and the preparation of eligible lists, lack of flexibility in the organization due to methods of procurement, assignment, promotion, and discipline, and general lack of incentive combine to make it difficult to achieve effective management and utilization of the organization. Efforts should be made to correct the adverse factors cited and to secure a fuller recognition by the Commission of the special requirements of the Board, particularly in respect to the classification of employees.

### Miscellaneous Operating Departments

**Transit Police**—The Police Bureau of the Board includes a uniformed force assigned to general policing on the system, mostly on rapid transit lines, and the force of nonuniformed watchmen

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\*ED. NOTE: The bulk of the actuarially determined pension payments made on behalf of the employees is made by the City out of General Fund and does not appear in the transit operating deficit; it amounts to approximately three times the above figure.



assigned to the protection of property and buildings.

The police situation raises a basic question of City policy as to which agency is to supply and pay for protection of the general public using the transit system. The propriety of including this cost as an item of expense to be charged against the car rider, instead of one to be borne by the taxpayer, is also in question. We conclude that it would be sounder municipal policy to relieve the transit operation of the policing burden, both as to responsibility and cost. If this were done, the Board's operating expenses would be reduced by about \$2,400,000 per year.

Concerning the watchman service, particularly at scattered locations remote from the central headquarters, our observations left us with an unfavorable impression of the coverage and in some respects of the caliber of the watchmen. This service should, in general, be a direct responsibility of the respective operating, maintenance, or other departments concerned, with the watchmen attached to the local staffs of these organizations. A small headquarters inspection staff should check presence and alertness of the watchmen on their assignments.

**Lost Property**—The centralized handling of lost articles is well conducted in such a manner as to provide uniform control, and centralized responsibility for articles of value, and to meet public convenience. We think that the exception of the Staten Island Surface System is justified by its remote location, but recommend that the Manhattan Bus System, now operated separately, should be brought under the centralized control. We also recommend that the collection and accounting for coins from pay toilets should be transferred to the Revenue Department.

**Safety Bureau**—Our studies indicate a marked reduction in the frequency and severity rates of employee accidents in recent years. This has been publicly recognized by the National Safety Council, and we recommend a continuance and wider application of the methods which have proven so effective in this field. The public accident field is much broader as to numbers and costs. The number of public accidents on the Rapid Transit System has not been reduced in proportion to the decline in mileage and passengers.

The activities of the Safety Bureau have been concerned to a large degree with control of employee accidents, but a program pertaining to prevention of public accidents on the Rapid Transit System is being developed. We recommend that the employee accident committee principle should be expanded and applied to control of public accidents. Closer co-operation should be established with the Transportation Torts Department with respect to securing information as to severity and costs of various types of accidents or other features bearing upon their relative importance from the viewpoint of accident prevention.

**Special Inspection**—The functions carried on by this department include current observations and investigations of Board employees with respect to compliance with operating rules, the handling of revenues, reported sickness, etc., and special investigation as assigned. By reason of the nature of its work, it is generally recognized that such an agency should be kept free from responsibilities of an operating or custodial nature.

The staff of 30 employees, as it was constituted in January, 1951, was inadequate to provide proper special inspec-



tion coverage over the system. Activities seemed to be unduly concentrated on the Surface System, with the Rapid Transit System inadequately covered. The 1950-1951 budget provision of 49 employees more nearly represents the requirements, and we recommend that the apparent unbalances and inadequacies be studied with a view to developing more definite measures of the coverage and manpower requirements in the various divisions.

### **Proposed New Departments**

Our study of the Executive and Administrative Departments leads us to the conclusion that there are certain functions which now receive less organized attention than seems desirable and others in which the responsibility is divided among several groups and should be centralized in the interest of more effective administration. We recommend the establishment of three new departments—an Employee and Public Relations Department, a Systems Department, and an Internal Audit Department.

**Employee and Public Relations Department**—The program of employer-employee relations is now divided among a number of departments, with little specific provision for co-ordination of activities within the broad framework of stated labor policy laid down by the Board. Procurement of new employees and maintenance of employee records are presently duties of the Personnel Department; disciplinary actions are processed by the Legal Department and tried by a member of the Board; grievances and limited conciliatory services are handled by the Deputy Commissioner; and medical services by the Medical Department. All of them report directly to the Board.

There is little organized activity in the field of public relations, and we recommend that the development and general direction of public relations activities, except for such phases as would naturally remain with the Board, be included as a direct responsibility of a major department head.

We propose the combination of the departments and activities referred to in the preceding paragraph into a major department under a Director of Employee and Public Relations. In our judgment, the functions can be carried on by the present staff and about ten additional employees, thereby adding about \$50,000 to the annual payroll.

**Systems Department**—We found numerous instances indicating a lack of uniformity in procedures, co-ordination of efforts, and comprehensive planning. The organization in general has not been alert to the benefits which might be obtained by the development and adoption of modern, uniform methods and reports and by the producing of reports in a form, and in time, to make them currently useful operating tools.

We recommend the establishment of a department, to be under the proposed Director of Finance and Accounting, and comprised initially of about ten employees trained in systems work and with broad experience in modern office procedures. This action would be in line with good management practice and would add about \$60,000 per year to the operating payroll, an addition which rapidly would be more than offset by resulting system economies.

**Internal Audit Department**—The accounts of the Board of Transportation are not audited by independent public accountants. However, the City Comptroller functions in that capacity to a considerable extent, under provisions



of the Rapid Transit Law which charge him with a number of specific auditing and custodial responsibilities. Auditing functions are presently performed by several divisions of the Accounting Department which, in some cases, is in effect auditing itself. There is a need for continuous auditing of certain revenue and expense transactions to maintain accuracy and compliance with prescribed procedures, and for periodic audits of inventories, stores accounts, and special funds by auditors functioning independently of the Accounting Department.

We recommend the establishment of an Internal Audit Department, to report directly to the proposed Director of Finance and Accounting, and to take over the auditing functions of the Concessions, Contracts, and Special Audits Sections and of the Material and Supplies Inventory Section of the Accounting Department. It is not intended that

it should take over the functions of the City Comptroller nor the functions of the Revenue Audit and Voucher Audit Sections of the Accounting Department.

Potential Economies

Our estimates of the potential economies which it should be possible to effect within a year or so, and the principal factors upon which they rest, are summarized as follows:

Item	Annual payroll	Estimated economies
Chief Engineer, Engineering Department .....	\$ 4,270,000	\$1,000,000
Transit Police (Police Functions Only) .....	2,452,000	2,452,000
Potential Economies Indicated and Evaluated .....	3,710,000	355,000
Potential Economies Not Indicated or Minor .....	1,745,000	
Potential Economies Indicated, but Detailed Studies Required to Evaluate .....	2,839,000	
Total .....	\$15,016,000	\$3,807,000

THE RAPID TRANSIT SYSTEM

In appraising the conditions found on the Rapid Transit System, it is necessary to take into consideration the historical development of the system, i.e., the combination of three railroads, each with different standards of physical property, different working agreements with the unions, and different operating practices. To weld these three railroads into one in all respects is not the work of a moment, but a matter of gradual accomplishment.

In recent years, the number of passengers carried has declined. However, station and train service have not been adjusted to the new conditions; consequently, expenses in recent years have risen radically. The rate for the last six months of the calendar year 1950,

for instance, is 40 percent over the expenses for the fiscal year 1948, and there is no indication that expenses have leveled off. Meanwhile, passengers have decreased about 33,700,000 per month, or nearly 20 percent.

This points up the urgent necessity for restudying the operating methods and the service rendered to determine what steps may be taken to bring expenses more nearly into balance with revenues, even if the accomplishment of this objective requires some reduction in service.

In spite of the drop in traffic, congestion in the trains on the trunk lines in rush hours is excessive, even if less acute than in prior years. To relieve this condition, the Board of Transportation



has made extensive plans involving a new Second Avenue subway line in Manhattan and for improvements to and connections between existing routes. Since the consideration of major extensions is beyond the scope of this Report, we have made no study of this specific project nor of its effect.

**Personnel**—One of the reasons for the good service rendered is the carry-over from private operation not only of skilled supervisory personnel but also of operating and maintenance employees who have contributed greatly to the quality of service rendered.

The average age of the men in the top supervisory positions is high; many have reached or are now nearing the age for retirement. The problem of replacing these men is acute, partly because of the exacting duties and partly because of a pay scale which is inadequate to attract into the business young men who will constitute the source from which supervisory positions can be filled. Young men would be willing to serve arduous and long apprenticeships if they could see before them the possibility of eventually attaining positions of responsibility with reasonable compensation.

We recommend the institution of a formal selection and training program in which cadets will be enrolled after passing appropriate Civil Service tests and assigned to a series of positions that will provide them with a sound education in the fundamentals of the business and will permit management to appraise the cadets' progress and aptitudes. These positions should be open to both hourly paid and salaried employees.

**Organization**—The proposed organization for the Rapid Transit System provides for a Rapid Transit Manager, reporting to the Assistant General

Manager. The Rapid Transit Manager will have as his principal executives the Superintendent, Cars and Shops, and the General Superintendent of Transportation. The Chief Engineer, Maintenance of Way, who reports directly to the Assistant General Manager, will co-operate with the Managers of the Rapid Transit and the Surface Systems on matters within their respective fields. These officers in turn will delegate authority to bureau chiefs and superintendents, as the case may be, so that adequate supervisory attention can be given to every detail.

The recommended organization will provide a General Superintendent of Transportation who will be an intermediary between the Rapid Transit Manager and the divisional superintendents.

### Employee Relations

Evidence of the present unsatisfactory employee relationships is so forceful that the situation should be corrected at the earliest possible moment.

Efficient operations are impossible without a reasonable degree of confidence between management and employee. The employees are not happy, in spite of liberal provisions for vacations, sickness allowances, pensions, and general working conditions. With a sound policy and good supervision, improved efficiency can be attained without placing any additional burden on the employees.

The Director of Employee Relations, subject to the General Manager and the Board, should be responsible for all personnel policies, including hiring, firing, training, discipline, promotion, collective bargaining, and working conditions.

The matter of hiring and discipline is now very largely determined by the



Rapid Transit Law and the Wicks Law. For all positions below those classified as Assistant Superintendent, employees are obtained from competitive Civil Service examinations. We recommend more specific definitions of classifications for rapid transit jobs, in order that appointments of qualified applicants may be made with more certainty as to their ability to fulfill the functions for which they are hired.

General criticisms of the present system are: that the examinations are not always related to the job; that supervisors to whom the applicants are assigned have no opportunity for screening the applicants prior to acceptance; and that, if an appointee proves unsuitable after a 30-day trial period, it is almost impossible to discharge him.

The training methods in some departments are excellent; in some departments, spotty. Promotion is obtained by Civil Service examination. The ability of the best qualified individuals to secure one of the three top ratings in the examination depends, in large part, on the type of training.

In accordance with the "Memorandum of Understanding" of May, 1950, most grievances are now handled at the local level. However, many cases still go up to trial before one of the members of the Commission. We are of the opinion that, insofar as is possible, grievances should be handled at the local level. Discipline connotes training or teaching rather than the imposition of penalties. The best qualified judge of the need and form of discipline is the supervisor in charge of the operation in which the employee is engaged. More serious infractions of rules should be handled by the top departmental officer, whether of Maintenance of Way, Cars and Shops, or Transportation. In the most serious

cases, appeal should be taken to the Director of Employee Relations. The most effective way to secure discipline is to build up the authority of the superintendents and department and bureau chiefs over their subordinates.

**Control Over Costs**

Our observations as to control over operating costs indicate a tendency to rely on comparison with the budget to the extent that, if operation is conducted within the budget, no incentive exists to pursue the matter of further economy. In all sections of rapid transit operations, greater efficiency could be obtained by a centralized Timekeeping and Payroll Department, by more precise definitions of cost accounts, and by a closer adherence to these definitions to secure uniformity in interpretation and use, by reinstituting divisional cost breakdowns, and by furnishing responsible supervisors with brief weekly reports on expenditures related to each respective field. Reports now prepared are too many and too voluminous.

We estimate that certain economies can be effected, as shown in detail in the foregoing text and summarized as follows:

Cars and Shops .....	\$ 800,000 to \$ 3,800,000
(the latter figure after re-organization is effected)	
Transportation .....	\$7,300,000
Total .....	\$8,100,000 to \$11,100,000

Economies in Maintenance of Way and Structures are possible, but the accumulation of deferred maintenance will not permit reduction in aggregate expenditures for several years. The economies listed in the foregoing table are in terms of 1950 expenses and wage levels.

**Way and Structures**

The physical condition of the property is generally good, but in certain



respects not up to the standard of a first-class railroad. Excessive deferred maintenance exists, particularly on curves on the IND Division where tie renewals are urgently needed; on several sections of the BMT where tie renewals have been inadequate for some years; and on certain steel structures where corrosion has reached such a point as to require immediate attention.

**Deferred Maintenance**—The condition of many of the BMT elevated structures and stations is deplorable as to paint and resulting corrosion. An extensive rehabilitation program on these structures is urgently needed. Many IRT elevated stations also require repairs and painting, and many stations on both the BMT and IRT require refurbishing, particularly as to plumbing. The estimated cost of structural and station repairs, including painting, required over and above normal maintenance, is approximately \$23,000,000 or \$4,600,000 per year if extended over a five-year period.

The tie renewal program on the IND and BMT requires an expenditure, in addition to normal maintenance, of \$8,800,000 over a five-year period, or \$1,760,000 per year.

**Track and Third Rail**—We recommend that the track structures be strengthened by using creosoted ties throughout, equipped with large, double-shouldered tie plates approximately 7½ in. by 13 or 14 in., fastened to ties with lag screws and using compression, clip-type rail fastenings.

We also recommend that consideration be given to the use of continuous pressure-welded rail or thermit-welded rail on tangent track.

**Labor-Saving Equipment**—Track gangs should be provided with proper labor-

saving equipment such as rail cranes, pneumatic or electric digging tools, power boring tools, screw spike-driving tools and ballast cars.

**Organization**—Principal changes include the provision of an intermediate level of authority between the bureau chiefs and field supervision in order to equalize the load and strengthen control, and the consolidation of operations on a system-wide, rather than a divisional, basis as at present.

Regrouping track, structure, and line equipment forces by areas, rather than continuing the old operating divisional setup, will permit elimination of a large proportion of the present travel time allowed between reporting points and the work, as well as prevent a certain amount of duplication of forces.

**Personnel Practices**—The personnel practices are similar to those carried on in other departments. It should be stated that the Bureau of Line Equipment is operating several excellent training schools, and this training program, in our opinion, is a model which could be followed in other departments throughout the system.

## Cars and Shops

**Cars**—Out of the 6,957 passenger cars now owned by the Board of Transportation, 760 are modern cars and thoroughly up-to-date; 1,790 are reasonably adequate. Of the remainder, 3,512 are old IRT and BMT subway cars; 895 are IRT and BMT elevated cars reaching the end of their service life.

Beginning with 1952, the need for a replacement program is indicated which, in the succeeding 39 years, will involve the renewal of more than 5,000 cars at an annual cost (at the present price level) of over \$10,000,000.



We suggest the consideration of light-weight cars with PCC trucks. These are estimated to cost, at current price levels, \$50,000 each as compared with about \$80,000 for cars of the present type.

**Shops**—The 207th Street Shop and the Coney Island Shop are well arranged, well tooled, and readily expansible. The 147th Street Shop is badly crowded and not well arranged.

**Training Employees**—Facilities for training exist, but generally are used only in preparation for Civil Service examinations for promotion. We suggest the institution of apprenticeship courses in the various crafts to provide a reservoir of competent replacements. The situation as to aging employees is as evident in this department as in any other.

**Cost Accounting**—We believe costs of car maintenance and cleaning can be materially reduced by restoring production more nearly to the rate of past years. There appears to be little incentive today to work for lower costs. The cost data available to the superintendents appear to be ambiguous because of differing interpretations of the same account definitions. In our opinion, a new set of definitions should be prepared and used, and cost keeping on a divisional basis should be restored to secure a healthy competition between divisions.

**Organization**—With the tightening up of the organization, the removal of causes of friction between management and employee, and emphasis on economy we believe it will prove possible not only to realize estimated annual savings of \$792,000, but to reduce costs which were incurred in 1950 by an amount in the order of \$3,000,000.

## Transportation

**Magnitude of Operations**—Reference has already been made to the extent of

the Rapid Transit System. During 1950, 3,690,000 trains were operated, carrying 1,681,000,000 passengers and with a 94 percent "on-time" record. The safety record with respect to passenger fatalities is good. The System's performance is outstanding.

**Organization**—Under the present organization, the General Superintendent is in charge of transportation, as well as maintenance and power supply, but has no intermediate officer between himself and the three division superintendents. We propose the creation, under the Rapid Transit Manager, of a General Superintendent of Transportation to whom the three divisional superintendents would report. On his staff would be a bureau of schedule and car-mileage accounting. The organization on each division would be uniform, eliminating some of the differences in method that now exist.

**Operating Practices**—The methods of issuing instructions and checking results are in accord with modern practice. Train movements are controlled by an efficient signal system equipped with automatic trippers.

There is little control over cost except by the budget. One function of the proposed staff under the General Superintendent would be to study ways and means of keeping transportation costs down.

**Personnel Practices**—As in other departments, all employees are chosen from Civil Service applicants and some prove not to have the required aptitude. The training is, in general, satisfactory as regards train operation, although somewhat spotty as to station services. As stated before, the need of an Employee Relations Department is apparent. Morale is low, in part because the



immediate supervisory officers have lost their authority to discipline.

The supervisory organization has an average age of 50 years. There is an insufficient number of young men being trained to fill the top positions.

**Train Operation**—Train operations are well conducted as to keeping on time and avoiding accidents to passengers. Average scheduled speed for express trains is 20 miles an hour; for local trains, 16 miles an hour. These are favorable as compared with rapid transit speeds in any city in the United States.

The consumption of power per car-mile is increasing. We propose, in order to obtain the best economy in the use of power, the creation of a position to be known as "Power Provider." His duty will be to furnish the transportation supervisory forces with cost and performance figures, and to insure close co-ordination between power requirements and power output.

**Station Operation**—Station operation should be under a divisional supervisor of station service. The railroad clerks who make change at the stations are the representatives of the Board of Transportation who come in immediate contact with the public. We suggest that these clerks be trained with a consciousness of that fact, and that attention be given to developing a more expeditious method of making change than the present slow and annoying way. We suggest consideration of closing certain exits to some stations and even closing some stations on Saturdays and Sundays, or at certain hours at night.

We suggest that collections of cash from the stations be made six days a week instead of seven, as at present.

A reduction in the cost of station service could be accomplished by providing the porters with mechanical sweepers.

Platform conductors should be selected with regard to physique and be uniformed. In that way, they will give a much better impression to and receive more attention from the public.

**Relationship of Passenger Load to Train and Station Service**—Passenger traffic is at the lowest level since 1925; it is 17 percent below 1948. This decline is especially pronounced on Saturdays, Sundays, and holidays. Travel in the peak hours of business days has not decreased to the same extent. The schedules of trains and car-miles have not been adjusted to this decrease in travel. Studies of possible changes in schedules, made in conjunction with the Transportation Department officials, indicate the possibility of discontinuance of a number of trains during certain hours and lengthening headways between others.

**Comparison of Costs and Man-Hours with Passengers Handled and Car-Miles Operated**—In no year since Unification have the Rapid Transit revenues per car-mile exceeded total operating expenses by as large a margin as during the five years 1936–1940. Expenses actually exceeded revenues in 1947 and 1948, and revenues barely covered expenses in the six months from July to December of 1950.

In 1950, about 1,000 men were required to produce the same number of car-miles as were turned out by 850 men in 1945; and 1,000 men were required to handle the number of passengers transported by 750 men in 1945.

Overtime appears to be on a reasonable basis generally, although in the case of road crews and platform conductors an over-all saving will result by scheduling additional overtime, rather



than by employing sufficient personnel on an eight-hour basis to man all assignments.

Nonproductive hours have increased materially over 1945; for example, sickness 63.4 percent, holidays 60.8 percent, and vacations 16.5 percent.

The need to bring expenses more into balance with revenues is evident, and deserves urgent consideration.

**Estimated Possible Economies**—The estimated annual economies result principally from curtailment of train service in off-peak hours; discontinuance of Saturday, Sunday, and night service on the Third Avenue Elevated; reduction in station forces; modernization, in particular, of signal and interlocking plants to permit remote control; and some minor changes. These amount to over \$7,300,000 a year.

Savings in excess of this amount can be developed through the co-operative efforts of officers and employees.

### **South Brooklyn Railway Company**

The South Brooklyn Railway Company is well managed, considering the difficulties inherent in its grades and clearances and its operation over Rapid Transit System tracks.

The substitution of one satisfactory electric locomotive, in addition to the two now owned, would permit the retirement of the two second-hand diesel locomotives now in service. This would result in economies, and would provide adequate motive power for present and prospective requirements.

### **Comparison with Boston and Chicago**

The transit operations in New York are of far greater magnitude than in Boston or Chicago, and the quality and safety of the service in New York are equal or superior to that offered in any other city of the United States. However, in our opinion, certain organizational matters, methods, and practices in effect in the transit authorities at Boston and Chicago could well be considered for New York, including the following:

(1) The corporate form of organization; in this case maintaining the City's powers over fares and service.

(2) The method of handling employee relations, including selection, training, and discipline.

(3) Maintenance of Way practices as to maintenance of steel structures, use of thermit-welded rail, large tie plates, and labor-saving equipment.

(4) Provision for centralized train dispatching.

(5) The development and use of lightweight cars.

(6) The concentration of control over transportation activities in an officer similar to the proposed General Superintendent of Transportation, Rapid Transit, with a Traffic and Schedule Bureau reporting to him, and with adequate cost accounting.

(7) The use of swing crews to offset the high train costs incidental to heavy morning and evening peak traffic.

The New York system, because of its large traffic volume, is still operating with a basic rapid transit fare of 10 cents as compared with 15 cents in Boston and 17 cents in Chicago.

## **THE SURFACE SYSTEM**

The division of the Surface System into distinct units, each serving its own area, is primarily a reflection of geo-

graphical conditions, the size of the areas, and their separation by water barriers. Many of the lines in Brooklyn,



and most of them in Queens, serve as feeders to the Rapid Transit Lines, the latter furnishing a transportation tie between the major Boroughs.

Rehabilitation and improvement of the physical property has advanced in a remarkable degree since the close of World War II and is still in progress. The acquisition of the systems as going concerns imposed upon the Board problems of establishing basic policies, unifying operations and operating procedures, and consolidating the several organizations. A major step, effected in 1950, was to place the transportation and vehicle maintenance functions under an Assistant General Superintendent, and to begin the assembly of an administrative staff. Much progress has been made toward standardization of procedures in the shops and garages; also, in meeting changed requirements resulting from the large-scale conversions from rail to bus operation; in the opening of new shops and garages; and in the acquisition of new types of equipment. Consolidation of activities over the component parts of the system has likewise progressed, but labor problems present formidable obstacles to rapid completion.

**Passenger Equipment**—As of the time of our inspections, the system was undergoing many changes, particularly with respect to equipment, garages and shops. It was expected that by June, 1951, all but three of the Brooklyn rail lines would have been converted to bus operation and that the rest of the system, with the exception of seven trolley coach lines, would be operating with motor buses. The passenger equipment would then include: 100 PCC and 20 conventional rail cars; 200 trolley coaches; and 2,143 motor buses—a total of 2,463 units.

Under the New York conditions, the operation of the very large buses on most routes is advantageous and sound policy, but we recommend that, in connection with future purchases, consideration be given to the economic and operating potentialities of the use of smaller units on some of the lighter traffic routes.

On the whole, the passenger equipment constitutes a new and modern fleet of rolling stock that is generally in good operating condition but subject to some deferred or inadequate maintenance, which results in many service interruptions. The fleet is ample to meet the requirements of the system as it is now constituted.

**Depots, Garages and Shops**—As of early 1951, there were 5 depots, 12 garages and 7 shops in operation. Five of the garages are of recent construction, designed and built for the purpose; the others are adaptations of older buildings with varying degrees of suitability and modernity. Their physical condition ranges from poor to excellent, mostly good. One of the shops in Brooklyn is very new, and of superior design for this work; two are older shops, converted to meet the prospective needs of rail car and trolley coach repairs as well as miscellaneous system needs for shop work. The fourth Brooklyn shop, used principally for repairing service trucks, is entirely inadequate and unsuitable, and early provision of better facilities is recommended. The shops in Queens and on Staten Island are generally adequate; the Manhattan shop is entirely inadequate.

It is evident to us that the conversions from rail to bus operation, and the influx of new passenger equipment, have proceeded ahead of the planning and provision of new garage facilities;



this resulted in an undesirable garage situation which should be avoided in connection with future decisions for further conversions or major changes in type of equipment. The depot capacities for rail and trolley coach requirements appear ample.

An additional garage in midtown Manhattan is urgently needed to relieve the acute deficiencies existing at the 100th and 108th Street locations. A garage is needed at the 39th Street location in Brooklyn to provide undercover storage for most of the buses which now use this location and the small garage on West 5th Street. The proposed construction of a garage on the site adjacent to the DeKalb Avenue shop in Brooklyn would relieve the Maspeth garage and provide a more advantageous storage location for some of the buses now operating out of the East New York garage. A new garage in the eastern section of Queens (presently under consideration) would enable reduction in idle mileage, and would also provide for future additional bus service in this rapidly developing area.

**The Surface System Operating Organization**

The Surface System operating organization is responsible for the operation of all surface lines and the maintenance of surface vehicles.

Other functions, such as maintenance of surface track, overhead, and buildings, and the operation and maintenance of power facilities, as well as more general system-wide functions, are consolidated for Surface and Rapid Transit Lines in other departments, under the General Superintendent or directly under the Board.

The organization is distinctly short of supervisory personnel in the upper and

middle levels and, in addition, is defective in form. We are in entire accord with the organizational structure proposed for the future by the Assistant General Superintendent. An over-all comparison of the personnel requirements follows:

Section	Existing	As Proposed
Administrative .....	57	67
Transportation .....	6,528	5,922
Maintenance .....	2,337	2,097
Total .....	8,922	8,086

**The Administrative Section**—The organization should be raised in level, paralleling similar functions on the Rapid Transit Lines, by placing the surface organization directly under a General Superintendent. The top administrative group is properly organized but should be somewhat augmented by additional clerical help and planning personnel. The present organization has made, in a relatively short time, commendable progress toward the consolidation of control of the respective surface divisions; but obstacles exist to the rapid completion of such consolidation—principally due to labor problems. The placing of the Schedules and Traffic group under a central head has been a desirable step, but actual consolidation of scheduling activities and practices for all of the surface divisions remains to be accomplished. Scheduling practices exist on the system which go beyond agreed “working conditions” in favoring operating personnel and, hence, result in costly operation.

Completion of the recommended reorganization would require a net addition of about 10 employees and the upgrading of a few others, with an estimated additional payroll cost of \$34,000 per year.



**The Transportation Section**—Under existing conditions, transportation functions are carried on by four divisional organizations, the division heads reporting directly to the Assistant General Superintendent in charge of all Surface Lines. Under the proposed plan of organization, there will be three operating divisions, each under a Superintendent reporting to an Assistant General Superintendent in charge of all transportation. This arrangement will result in a net increase of five employees in the supervisory and clerical forces, other than Surface Line Dispatchers, and, together with some upgrading, a net added payroll cost of \$52,000 per year. The distribution of the proposed staff is summarized as follows:

	Number of employees
Headquarters Division .....	152
Three Divisional Headquarters .....	189
Sixteen Garages and Depots .....	431
Sub-total .....	772
Operators .....	5,150
Total .....	5,922

Office procedures and records at the garages and depots will be much improved by the proposed regroupings and added upper-level supervision.

The general supervisory and many of the clerical functions are carried on by employees grouped under the Civil Service title of Surface Line Dispatcher, of which there are three classes. The coverage of both office and field functions by employees in the same Civil Service classification has substantial disadvantages from an operating viewpoint since it enables individuals to qualify for such divergent functions as street supervision, depot clerical, and cashier duties.

An adequate organization and program for the instruction of vehicle operators exists in the Brooklyn system, but in the other divisions the activities are not so well organized. We recommend the consolidation of all operator instruction in a central organization. We also recommend the utilization of "swing tricks" in scheduling the street supervision, and of centralized supervision of system service along the lines of the procedures now set up for the Brooklyn Division. These measures, in combination with the restoration of two-way radio control and increased automobile patrols, will greatly strengthen street supervision and, at the same time, permit a reduction in the force of about 43 dispatchers and a payroll saving of about \$198,000 per year.

From studies of the service scheduled and of maintenance practices, we have recommended changes and economies which would result in an estimated reduction of about 653 operators from the requirement of 5,803 operators as of January 1, 1951. Included is a substantial reduction in shifters or "drill operators" in the garages. These estimates are based upon the 6-day week and, therefore, do not reflect any allowance for increased personnel required with a shorter work-week.

**The Maintenance Section**—The Maintenance Section, with some 2,300 employees, is responsible for the maintenance of passenger and other surface vehicles used on the system. As of the latter part of 1950, the responsibility was divided between three more or less independent groups dealing respectively with bus maintenance, trolley car and trolley coach maintenance, and maintenance engineering matters.

The proposed reorganization of the Maintenance Section provides for four



general maintenance divisions, three divisions corresponding with those proposed for the Transportation Section as to general coverage of garage and depot work, and the fourth division covering the general overhaul shops. Each division would be headed by a Superintendent reporting directly to the Assistant General Superintendent in charge of maintenance. Responsibility for maintenance records, procedures, and training of personnel would be vested in a staff group under a Superintendent reporting directly to the General Superintendent in charge of Surface Lines, but working in close co-operation with the Assistant General Superintendent in charge of maintenance.

The proposed distribution of the personnel is summarized as follows:

	Number of employees
Section Headquarters .....	65
Two Brooklyn Shops .....	549
Seventeen Garages, Depots and Shops.....	1,483
Total .....	2,097

The recommended reorganization of the supervisory and clerical forces will increase the 1950-1951 budget allowances by about 38 employees and \$153,000 per year.

In our opinion, subdivision of the mechanical forces under titles more specifically related to the work to be done would enable assignment of these employees in better accord with their particular qualifications. At present, only nominal provision is made for supervision of a program for training maintenance employees, but no such program is in effect. We believe one is urgently needed and recommend that one be established.

Traffic and Service

The significant system figures as to traffic have already been stated. The general decline has been accentuated by the effect of fare increases, the 1950 increase on the City lines apparently causing a loss of 9 percent in revenue passengers, but with a gain of 25 percent in passenger revenue.

**Routing**—In our opinion, the routing plan in Brooklyn generally provides adequate coverage and sound routing, but some of the routes could be combined to economical advantage. In Queens, the existing routes serve largely as feeders to the Rapid Transit Lines and evidence a considerable duplication of service (which can be eliminated if and when the Rapid Transit Lines are extended further east). In the meantime, the economic possibilities of shortening some of these routes in off-peak hours should be studied in detail. In Staten Island, the routes, to a large extent, radiate from St. George, and there is considerable duplication of service on several of the main highways. Substantial operating economies could reasonably be made by consolidation of some of these routes and substitution of feeder service on the branch portions, particularly in peak periods. The Manhattan routes are located advantageously.

**Service Operated**—We find an unusually high proportion of base-period service on the system generally and an extremely unfavorable condition on the Brooklyn Division. The scheduled headways indicate that the service frequencies are, in general, on the liberal side and that substantial curtailments could be made in either the peak or off-peak periods.

Major economies can be effected by the elimination of excess service, par-



ticularly in the weekday and Saturday off-peak periods, to the extent of about 10,337,000 car-miles. This represents potential economies totaling \$2,104,000, made up of \$830,000 in operators' wages, about \$400,000 in maintenance payrolls, and \$874,000 in other rolling costs.

All-night service could be discontinued on three Brooklyn routes paralleling Rapid Transit Lines, and reduced on other routes by lengthening headways to 30 minutes (and, in some cases, 60 minutes), with potential savings of about 500,000 vehicle miles, or about \$130,000 in operator payrolls and other rolling costs.

The loading standards used in scheduling peak service are in fair accord with those used on other systems. Analysis of the count data shows reasonable conformity on the average, but with considerable variation on individual routes, indicating a need of schedule adjustments in the maximum half hour.

Appearance and riding qualities are generally good, but cleaning of the vehicles is not adequate. Operation is generally satisfactory with respect to operator skill, observance of traffic and safety regulations, and behavior in contacts with the public.

The number of public accidents per passenger and per vehicle-mile on the system shows the 1950 experience considerably better than that in 1949. General comparisons with the experience reported in a number of other cities indicate that the frequencies reported for the New York operations are in the upper end of the range, but, in general, not the highest.

**Potential Economies** — The estimated economies in the Transportation Section, on the basis of traffic, wage and cost levels, and the six-day work-week

then in effect, are summarized as follows:

Attributable to	Potential economies
Reductions in Basic Service Operated	
Operators' Payroll .....	\$ 830,000
Operating Costs, exclusive of Maintenance Labor .....	874,000
Reductions in Night Service	
Operation and Maintenance Costs .....	130,000
Revision of Street Supervision	
Surface Line Dispatchers' Payroll.....	198,000
Gross Savings .....	\$2,032,000
Strengthening Administrative Division	
Added Supervisory and Clerical Payroll Costs .....	52,000
Net Savings, Transportation Section....	\$1,980,000

Vehicle Maintenance

**Bus Maintenance**—The A inspections are the first step in the system of preventive maintenance. We recommend the establishment of a more thorough inspection procedure scheduled once every 24 hours, a single servicing of vehicles in the same period, and that the shifting of buses within the garages be done by the maintenance forces instead of by a group of transportation employees, as at present. We believe more effective current maintenance will result and estimate that for present loads and work week, the force should be reduced by about 96 maintenance employees and 150 shifters.

The established procedures for B and C inspections seem comprehensive and thorough, but the record of bus failures following such inspections indicates that the workmanship may be under par or that the final testing upon completion may not be thorough. The average number of man-hours per inspection is high, which is in line with our observations of slow pace and leisurely attitude on the part of the work force. We estimate that a reasonably efficient execution of



these inspections could be carried on with the present work force reduced by about 50 maintainers. As before, this estimate is predicated on the size of the fleet, the work week and other conditions prevailing as of about January 1, 1951.

No direct supervision or inspection of buses after cleaning is made, and we believe that with the facilities and forces available, except in Manhattan, a much better job of bus cleaning could be done.

As of about January 1, 1951, over 800 buses were overdue for overhaul and the backlog was still growing at the rate of about five buses per month. Elimination of the backlog in 12 months would require the temporary addition to the present work force of between 50 and 60 maintainers, some of whom, in time, would probably be required to meet added loads due to increases in the fleet.

The East New York and the Queens shops are well equipped for overhaul of mechanical units; the Staten Island shop, only partially. Major units for Manhattan buses are overhauled in the Brooklyn shops. The planned ultimate concentration of all major unit overhauling and a considerable portion of the minor unit reconditioning for the entire system at the East New York shop should result in greater efficiency and lower costs for this type of work.

Each shop maintains a crew specifically assigned to "unscheduled repairs," major repair work arising from collisions, accidents, etc. and occurring between regularly scheduled inspections. The volume of this work fluctuates, and its nature is, in general, not different from that done in the same shop on scheduled inspections. We believe the two groups should be combined and

thereby enable a more effective use of the available manpower and supervision.

**Trolley and Trolley Coach Maintenance**—Road failures of cars and trolley coaches are minor by comparison with the rate of bus failures. The maintenance procedures are well organized and effective and, when current changes in facilities and staff are completed, we believe that efficient trolley car and trolley coach maintenance will be further insured.

**Service Equipment Maintenance**—The complete inadequacy of the Nostrand Avenue shop for the efficient maintenance of service trucks and passenger cars and miscellaneous shop work has been recognized by the management. We believe the provision of a shop of adequate size, suitably arranged and equipped, is an urgent need and would enable the present work load to be carried more efficiently and the present work force of 41 employees to be reduced by 8 or 10 employees.

**The Maintenance Forces**—Annually rated employees classified as supervisors, assistant supervisors and foremen, with few exceptions, appear well qualified for the positions held and, on the whole, present a relatively high degree of competence and alertness. We are convinced that this staff is materially handicapped in its efforts by certain conditions beyond its control, that its present complement is about a minimum, and that even with a reduced work force, as proposed for the future, a slight increase will be necessary for adequate direct supervision.

The prescribed methods of appointment and promotion, together with seniority practices, preclude the acquisition of skilled workers directly from the outside and point to the need of some form of on-the-job training.



**Wage Incentives**—Private industry has employed various methods to accomplish cost reductions through higher individual or group productivity—usually referred to as “wage incentives.” Another form, usually called “measured day work,” fixes a standard performance to be met and ordinarily does not include a direct incentive feature. These labor control methods find their widest use in the manufacturing industries and in our experience have not been utilized to any appreciable degree in the urban transit industry. Their utilization is dependent upon first meeting a number of requirements, the most important of which is an atmosphere of mutual confidence between labor and management. These requirements might well require as many as five years for consummation. There is no question concerning the potentialities of large ultimate savings inherent in a modern type of cost control, but we have strong doubts about its willing acceptance by labor and hence of its local applicability at this time.

**Potential Economies** — The potential economies in the Maintenance Section are summarized as follows:

Attributable to	Potential payroll savings
Completion of Conversion Program	
Reduction in Maintenance Employees.....	\$ 410,000
Recommended Changes in Shop Procedures	
Reduction in Maintenance Employees.....	337,000
Elimination of Shifters, Transportation Employees .....	570,000
Recommended Reduction in Basic Service Operated	
Reduction in Maintenance Employees.....	400,000
Gross Savings .....	\$1,717,000
Strengthening of Direct and Indirect Supervision	
Added Supervisory and Clerical Payroll Costs .....	153,000
Net Payroll Savings, Maintenance Section .....	\$1,564,000

The resultant net savings of \$1,564,000 represent an evaluation of specific economy measures that can be made effective within about a year. The strengthening of the supervisory forces and other recommended measures, such as the institution of a training program, should gradually result in substantial improvement in work pace and performance and in economies far outweighing the added payroll costs.

Earnings and Expenses

The primary interest here is with respect to operating cost comparisons, as revenues and operating income figures necessarily reflect differences in the rates of fare as well as in the costs incurred.

Comparison with reports to the Public Service Commission by the 11 privately owned bus systems in Manhattan, Queens, and the Bronx indicate that the City’s costs are on the high side and, in general, bear out our conclusions that economies in the City’s operating costs could reasonably be made by instituting the measures recommended as a result of our detailed studies. These include a strengthened supervisory organization, a better adjustment of mileage operated to the requirements of the traffic, and improved procedures in the conduct of the transportation and the vehicle maintenance functions.

For convenience of reference, our estimates of the net potential economies on the Surface System, referred to above, are as follows:

Administrative Section (an increase).....	\$ (34,000)
Transportation Section .....	1,980,000
Maintenance Section .....	1,564,000
Net Potential Savings, Surface System	\$3,510,000



SUMMARY

The operation of the City's system during the fiscal year 1950 resulted in an operating deficit, before fixed charges, of about \$1,100,000. The conditions existing during the fiscal year 1951 indicated a downward trend in traffic levels, with wage and other costs rising and little prospect of any favorable change in the trends. The recently available reports for the fiscal year 1951 confirmed these indications and showed an operating deficit before fixed charges of about \$3,000,000, made up of an operating net of about \$600,000 on the Rapid Transit Lines and a deficit of \$3,600,000 on the Surface System. The system deficit after fixed charges was some \$73,000,000.

Recent press reports indicate an operating deficit of \$5,600,000 for the first quarter of the fiscal year 1952 and (after making allowances for seasonal effects upon traffic and the beginning of transition to a shorter work week on October 1, 1951) that the operating deficit for the full fiscal year would be at least \$20,000,000.

Under the circumstances, it seems appropriate to summarize the estimated economies which we believe can be accomplished by adoption of the recommended changes in organization and procedures. A number of the recommended measures fall in the category of long-range improvements and economies and, because in varying degree they call for a detailed and sequential approach over longer periods, do not lend themselves to present evaluation. In a number of instances, they concern large potential savings. The following estimates cover those economies which it should be possible to effect within a year or so, and other factors in effect during

the period of our studies, such as traffic, wage and cost levels, the six-day work-week.

	Potential economies per year
The Executive, Administrative and Miscellaneous Operating Departments.....	\$ 3,807,000
The Rapid Transit System	
Passenger Equipment Maintenance and Transportation .....	8,100,000
The Surface System	
Administrative, Vehicle Maintenance, and Transportation .....	3,510,000
Total .....	\$15,417,000

Included in the above is an item of \$1,000,000 estimated economies in the Engineering Department, which does not affect the operating results, and a \$2,452,000 saving in operating costs premised upon the transfer of the Transit Police from the Board's payroll to that of the City Police Department. It follows that from the net earnings viewpoint the near-future potential economies fall between \$12,000,000 and \$14,400,000 per year, against an annual operating expense in the order of \$220,000,000.

Several offsetting increases are not reflected in the above summarization, as, for example, some added costs due to the recommended enlargement of the Board, provision of a General Manager, and some new upper-level supervisory assistance. Furthermore, while measures leading to economies in the activities of the Maintenance of Way and Structures have been recommended, their effects are overshadowed by the indicated existence in the Rapid Transit System of deferred maintenance which needs prompt correction. If spread over a five-year period, correction would require expenditures over current amounts in



the order of \$6,400,000 per year. In addition, recommended rehabilitation of signal and other facilities would require between \$5,000,000 and \$6,000,000 per year over a five-year period.

In the light of the above general situation we conclude that the potential economies evaluated might alleviate, but cannot materially change, the lack of net earning power under existing fares. Nevertheless, we believe the recommended measures for improving

the effectiveness of the operations and achieving potential economies, both near-future and long-range, are both desirable and practical of achievement. We submit them for the careful consideration of the Board of Transportation in its efforts to solve the continuing problem of bringing earnings and expenses into reasonable balance under most difficult conditions, a number of which are beyond the control of the Board.

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## SECTION 2

# TRANSIT POWER

BY

THE J. G. WHITE ENGINEERING CORPORATION

The scope of this survey may be outlined as follows:

(1) Description of power facilities and modernization schedule.

(2) Power requirements filled by City-owned transit plants or by purchase; reserves available; and provisions for power under emergency conditions.

(3) Sources of power — relative costs and advantages of purchased and generated power.

(4) Supplies — selection and handling, particularly fuel.

(5) Organization in the Power Department, and new skills required after modernization.

(6) Modernization — effect of obsolescence in the distribution system, in generating equipment, and transmission facilities; system integration (including interconnection of power stations).

(7) Power system expansion.

(8) Program — a tentatively recommended program for 1952-1959, inclusive (including cost estimates of modernization and extension).

### Prior Studies

Even before the final acquisition of privately owned rapid transit systems within the City, a series of studies relating to the maintenance of an adequate and efficient supply of electric power for all lines was made. The first, made in 1939 and reported upon in 1940 for the Board of Transportation by The J.

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Digest from "Report on Power Supply of the New York City Transit System," by The J. G. White Engineering Corporation, June 21, 1951.



G. White Engineering Corporation, was to determine source adaptability and possible modernization of power supply facilities. Also considered was the possibility of consolidating power supplies for all City systems into municipally owned plants.

A 1945 report, issued as a supplement to the 1940 report, emphasized design of plant layout and particularly the improvement in high-pressure boilers. In 1946 a modern high-pressure boiler and turbine generator unit were installed at the 59th Street Power Plant which partially met the recommendation of the supplementary report. While the 1940 report recommended superposition of high-pressure turbines for initial use of steam generated at 1,350 pounds pressure and reusing this steam through the lower-pressure turbines which comprised a large portion of the generating equipment at that time, this has been found no longer desirable in 1950, because of the advanced age of the existing turbines when conceivably superposed turbines might be installed.

A later study made in 1949 recommended partial installation of 60-cycle generating equipment rather than the initial 25-cycle equipment susceptible to

changeover later to 60-cycle service, as conditions require.

The decision to generate 60-cycle electricity in part in City-owned plants now and gradually to develop a 60-cycle network was in recognition of the present and desirable trend toward the adoption of that frequency as exemplified in service to the IND system and as planned for the Second Avenue Trunk Line as well as for its eventual use over the entire transportation system.

### **Aim of This Report**

A series of studies launched by the Mayor's Committee on Management Survey concerned employment practices and operating economies in the Board of Transportation. This Report supplements its findings with respect to the effective use of the operating organization of the Power Department. Obviously, the effect of modernization on personnel requirements and skills must be related to the rate at which the proposed Power Department modernizing program is carried out. Although economy in the use of fuel and labor is important, the primary objective of establishing and maintaining reliability of service is emphasized in this Report.

## **CRITERIA FOR POWER SUPPLY ANALYSIS**

As evidenced by the addition of modern power generating units at the 59th, 74th Street, and Kent Avenue Plants, the City is continuing a policy of generating at least a portion of the power requirements for its transit lines. Hitherto this has been confined to the generation of 25-cycle energy. The fact that the line of demarcation between any source of supply and power service to the transit lines will be on the alternating-current side of its utilization

substations places the City in a position of peculiar responsibility with respect to maintaining and gradually modernizing its substation and distribution facilities.

The four basic criteria applicable to power supply to the City's transit system are: (1) reliability, (2) adequacy, (3) security, and (4) economy. "Security" is considered in terms of preparation against the exigencies of war.



## Reliability

The City has failed to keep pace with current practices of the power industry in power plant modernization with the result that the cost of power production is relatively high, and the age and condition of the equipment have major bearing on reliability since it is increasingly susceptible to breakdown.

The prevention of breakdown through ordinary, or even extraordinary, maintenance is not predictable because (particularly in steam machinery) of the stress and strain of mechanical motion and alternate heating and cooling especially in reciprocating engines which have been in daily service for nearly a half-century. At 74th Street the reciprocating engines are no longer in use. Those at 59th Street are only in limited service.

Until a few years ago, switching equipment in all plants had reached an age of 30 years or more and, as measured by present-day standards, is inferior in reliability and adequacy regardless of physical deterioration. As a result, steps are being taken to install adequate facilities at the 59th Street and 74th Street Plants.

With the exception of the 1938 addition to Kent Avenue, the new unit at 59th Street, and that recently purchased for 74th Street, the City's power plant equipment is inferior to that which will be provided under a program of modernization—a situation generally obtaining in all large power generating systems in varying degrees.

**Subtransmission**—Although the present 25-cycle power cables and transformers are largely in the advanced-age class (many of them approaching the half-century mark), it is difficult to estimate the termination of their useful life.

**Substations and Distribution**—The physical deterioration of the 25-cycle substation equipment, as affected by age, is indicated by a rising rate of maintenance and a tendency toward unreliability. The alternative of a system power supply from private utility sources to that of a supply from City-owned generating plants offers no advantage in improving substation reliability.

Modernization of these substations can be accomplished only by abandonment and through substitution of 60-cycle rectifier stations.

**Source of Power Supply in Relation to Transportation**—In earlier years normal service has generally been allocated to "through" transit lines from specific generating plants. In generating plant shutdown, the supply has been maintained temporarily through substations, interconnections between City-owned power stations, or from outside sources. Changing transportation conditions, involving present and planned routing of trains over a number of lines, will necessitate displacement by some form of allocation of supply to utilization substations if complete interruption of service over any specific line or any combination of routes and lines is to be avoided.

If sources of supply are equally reliable, no difference in reliability should exist between privately or municipally owned sources of service. However, the advantage of the municipal source of supply is that Rapid Transit management is responsible only for transit operation and not for commercial, private, and industrial consumption. This difference is particularly important during service interruptions.

**Personnel Efficiency**—The City, to some extent, inherited from prior owners of its plants a nucleus of skilled personnel.



With the gradual addition of other skilled supervisors, operators, and trainees, these plants, although losing capacity and deteriorating because of age, have continued to be well operated under City ownership.

In considering plant development and modernization, the City has no alternative but to provide men fully qualified by technical education, training, and experience to operate and maintain modern machinery. Specialists and constructors must also be available to see that adequate equipment is selected, properly installed, and safely handled.

### **Adequacy of Facilities**

Adequacy in transmission and distribution for transportation service is simply a matter of engineering mathematics. Where the program developed by White's 1950 Report is quantitatively concerned with supply from City sources, and such sources are limited because the City has not provided for them, the unavailable balance is being secured from a privately owned utility. The cost paid for such balance has a direct bearing upon over-all costs of energy.

### **Security in Emergency Conditions**

The susceptibility of New York to bombing attack in the event of war makes vital to management interest, both private and municipal, a diversity of supply sources. Accordingly, the development of 60-cycle generation in City plants can also be mutually beneficial through interchange.

In the event of bridge destruction by bombing, fuel supplies to some plants would probably not be interrupted if those power plants were located at points less susceptible to disruption of river traffic, such as via the Harlem River and the East River. All major

plants in New York are now located on the East River and north of the major bridges, except in the case of the 59th Street Plant, and the Staten Island Plant planned by Consolidated Edison Company. This emphasizes the potential value of a southern Brooklyn or Queens waterfront property as a power-plant site; a plant on Jamaica Bay would have only the Marine Parkway Bridge as a hazard to water transport.

### **Economy**

The cost of generation, and the cost of modernization and expansion, attained through reconstruction of existing, or construction of new, City-owned plants must be estimated and compared with costs of private plants and power generation under private ownership. This also applies to properly qualified technical personnel who must maintain full potential efficiency at all times and must evaluate assignments in terms of the abilities and potentialities of qualified operating personnel. Also highly important in any consideration of economy is the competitive position of the City as a plant owner and operator as related to cost of the service under Commission regulation or as developed through negotiation.

### **Report Objectives**

Recommendations of this Report, and the possibility of achieving them, are dependent on observation of the criteria discussed in the foregoing paragraphs. It is desirable that the City either adopt such a program as that presented or improve upon it and thus establish a high standard of performance under the criteria named and defined. Prompt initiation of a program of gradual changeover to other sources of power supply capable of conforming to these criteria is the secondary alternative.



## POWER GENERATION

### Present Condition of City-Owned Plants

Power plants now owned by the City had been well maintained and modernized to a reasonable point prior to their acquirement by the City, but time and age have taken their toll in relatively decreasing efficiency. Several breakdowns in the reciprocating engines at 59th Street (and maintenance records of the older equipment in all three plants) prove that it is imperative for the City to enter upon a program of replacement.

Developments subsequent to the latest modernization of the switching equipment have made that equipment obsolete. This is due, in part, to the increase in installed generation capacity and to the advances in the art which make it possible to determine quite accurately the ability of the switchgear and its needs.

Records reveal instances of equipment failure, attributable to insufficient interrupting capacity, which present major repair problems. The development of Kent Avenue, in its most recent stage, has resulted in the reduction of space in the switch galleries to the point that passage for personnel is difficult; the space in all stations is so congested that no additions or properly designed modifications can be made. Major projects are required at each station to effect the modernization of equipment. Two of these are under way.

### Power System Modernization Planned under City Ownership and Management

The total net generation required for the power system at present is 380,000 kilowatts; the net generation that will

be required in the year 1960 is estimated at 670,000 kilowatts. This load does not include the amount of power supplied by Consolidated Edison to the IND system and its increments of growth.

If the anticipated load requirements are to be met, capacity must be added in the power stations, located in other plants, or purchased from outside sources. Of the 380,000 kilowatts presently required, 270,000 kilowatts are supplied by the interconnected 59th Street and 74th Street Plants. The net capability of these plants is 270,000 kilowatts, with available reserve negligible. The difference of 110,000 kilowatts is supplied by the Kent Avenue Power Plant, which has a nominal generating capability of 180,000 kilowatts, 80,000 kilowatts of which is dependent upon the continuing availability of its low-pressure boiler plant.

To provide for operating contingencies in power generation of the two portions of the City's two transportation power supply facilities, the City depends upon service over interconnections with Consolidated Edison.

The City-owned power generating system should be viewed as a whole rather than as two separate centers of power generation; i.e., that of the IRT plants on the one hand and of the BMT plant, Kent Avenue, on the other. Accordingly, in the program of modernization, the procedure adopted has been to consider power system needs as a whole, with generating units added regardless of the immediate needs of any individual station or the opportunity that presently exists therein. In implementing such a program, this Report does not recommend the maximum development theoretically possible of any



one of the three existing plants. Although such complete use of all three plants might be feasible before it becomes necessary to go to outside sources or to build new plants, the economic or practical desirability of this maximum use is definitely questionable.

In adding modern units to the equipment of the existing stations, the generating capability will not necessarily be continuously or correspondingly increased since it is necessary at times to take out older equipment to provide space for the installation of new equipment. Presumably the new equipment will have more capacity and will be more economical to operate than the equipment removed, but the work will have to be scheduled carefully so that, in the periods when the old equipment has been removed and new equipment is not yet in operation, the system generating capability will not be reduced to a point which will jeopardize the transportation system reliability.

### System Integration

**General**—The recommended development of the power system incorporates certain features which are not now characteristic of the power supply for the City subways. The 59th Street and 74th Street Plants are capable of interchanging a limited amount of power on a normal operating basis and, by various means, it is possible to take power into these stations from the Consolidated Edison system.

The Kent Avenue Plant has no means of exchanging power with either of the other two stations but, to a limited extent, it can exchange power with the Consolidated Edison Company. It is proposed that all existing or new power-supply stations for City subways be interconnected with large capacity ties

so that the ability of any station to reinforce any other station is firmly established for either 60-cycle or 25-cycle service (or ability to convert to 25 cycles).

Since the ties to provide the interchange are costly, a study of several possible solutions has been made. It has been concluded that, in a transmission system serving the purpose of providing ties among the stations and of supplying power to transmission substations for subtransmission, the use of a high-voltage circuit or circuits becomes necessary. The use of a system to permit the indiscriminate interchange of large blocks of power among stations establishes the desirable condition that system reserve capacity may be installed at any point in the system and need not be provided, as is presently necessary, in every station. This, of course, makes it possible to reduce the total amount of system reserve. Thus, if a four-station system is considered, the reserve can be reduced from four machines necessary on an isolated station basis to two machines on a system interchange basis. To a large extent, this saving will offset the cost of the transmission system.

Furthermore, the use of a high-voltage transmission system to supply transmission substations will result in the shortening of a large proportion of the alternating-current circuits feeding utilization substations. At present, these originate at each of the power plants and reach excessive lengths in many instances. Solutions for the resultant excessive regulation, such as the use of step-up transformer banks at the 59th Street and 74th Street Power Plants, have met with some success.

Such solutions, however, introduce capital costs with relatively small re-



turn. Since there will be no long circuits, the shortening of feeders of medium voltage (that is 15 kilovolts and below) would eliminate the need for any consideration of special provision. Such feeder shortening will reduce the installation cost of medium-voltage cables at 13.8 and 27 kilovolts, resulting in further savings to offset the cost of transmission installation.

On the basis described, the transmission system at 60 cycles will be capable of transmitting 60,000 kilowatts, or more, from any one station to any other station, or to all other stations. Should a deficiency at any time exist in the 25-cycle system, it will be necessary to convert 60 cycles to 25 cycles and, to accomplish this, two frequency converters of 20,000 kilowatts each are being installed at the 74th Street Plant. It is proposed that frequency converters be installed at the site of Central Sub-

station, at First Street and Third Avenue, Brooklyn, and at the 59th Street Power Plant. The use of frequency converters at these three locations will permit conversion of 60-cycle to 25-cycle power, at or near each station where 25-cycle generation exists. The existence of 25-cycle generation is the criterion for determining the existence of the 25-cycle load which, in all instances, is fed from power stations.

It is believed that the solution offered obviates the necessity to establish the capacity for 25-cycle power, and it is believed that a complete study would show that it does so at less cost.

The foregoing clearly indicates the need for a program of power system modernization, rather than one which contemplates modernization merely in terms of the addition of improvements in specific plants.

## GENERATED VERSUS PURCHASED POWER

### General Considerations

The IND Division is the only part of the system for which all power is purchased. Other divisions use power generated in City-owned plants and supplemented by purchased power. Power for the IND Division has been purchased from the Consolidated Edison Company under a contract which has been extended periodically since the original termination date in 1949 because of inability to agree on terms satisfactory to each party. Rising costs have deterred consummation of a new contract pending decision by the Public Service Commission on a new large-user rate. Under the contract which was to have terminated in 1949, the cost of power for the fiscal year ended June 30,

1950, was \$6,376,494 (580,535,399 kilowatt-hours at 1.098 cents per kwhr.) not including tax credits to the City. A portion of the total purchased was 25-cycle power.

The amount and cost of power generated by the City plants (all 25-cycle) for the same period totaled 1,504,019,244 kwhr. and \$21,422,631 (1.424 cents per kwhr.), exclusive of fixed charges on invested capital. These figures compared with the cost of purchased power represent "out of pocket" cost to the City for power generated in its long outmoded and highly inefficient plants. However, the replacement of City power by purchased power would have necessitated the inclusion of fixed charges of an unknown and presently indeterminate amount. (This probably



more than balances the omission of the tax return to the City on purchased power.)

The foregoing shows that the City's policy has resulted in about 28 percent purchased and 72 percent generated power.

Tabulations prepared in the course of the survey show that estimated costs of power generated after complete modernization would be higher than that under the temporarily extended contract with Consolidated Edison and indications are that under a new contract the price will be increased. The Board is now operating under an extension of its contract with the utility because it has protested a proposed contract which would have meant a 40 percent increase in costs or about 1.529 cents per kwhr. not including tax credits to the City.

The engineers estimate that if the 1940 recommendations for modernization had been put into effect, the cost today of the above generated power by the City would be 1.149 cents per kwhr. With all modernization recommended in this report, plus the proposed construction of a new plant including fixed charges on the cost of modernization and new plant, but excluding land and fixed charges on the old equipment the engineers estimate that the Board's cost of generating its own power would be 1.198 cents per kwhr. The latter figure contemplates a 40-hour week for personnel. The figures mentioned for cost of purchased power do not include tax return to the City.\* It is emphasized that, as there are at present no firmly established rates for purchased power, no clean-cut comparison can be made.

\* ED. NOTE: J. G. White has since stated that, in its opinion, the tax return would still leave the only proposed rate appreciably higher than the City's cost of generation.

Using fiscal year 1951-1952 as a base, and assuming operating expenses based on a 40-hour week, the cost of power generated in City plants is expected to be reduced from 1.531 cents per kwhr. to 0.783 cents in 1959. This, however, is without fixed charges, depreciation, and amortization. Taking these into consideration, the final cost per kwhr. in 1959 is brought to the previously mentioned figure of 1.198 cents, and this is, as stated before, higher than present cost of purchased power under the temporarily extended contract, but much lower than the proposed rate of 1.529 cents per kwhr.

Based on the consumption figures used in this Report, the following would mean that by using the new rather than operating the old equipment, a saving of over \$16,269,000 would be effected in the year 1959, not including fixed charges. Of course, this comparison is based on the assumption that the amount of energy required in 1959 could have been generated with the old equipment.

In addition, accumulated dollar savings from 1952 through 1959 are estimated at \$54,680,000. Thus, it is estimated that a new generating equipment cost of \$239,500,000 would be retired in less than 19 years (12 more years after 1959) without consideration of interest and depreciation charges.

Because of the present lack of established power rates, cost, as a specific determinant affecting the judgment of the Board or the City, can be only of limited importance, insofar as the findings of this Report are concerned. The improved competitive position of the City vis-a-vis the private utility must be considered, in addition to the other advantages of flexibility, etc., in having its own generating facilities.



## BASIC RECOMMENDATIONS

At this point, the basic recommendations of the engineers are presented in highlight fashion. In later pages, the findings upon which the recommendations are based are given in greater detail.

The recommendations are based on the assumption that the power supply to the IND Division and its increments will continue to be purchased from the Consolidated Edison Company. The assumption is also made that the means of supplying power to the Second Avenue Trunk Line with its branches and connections will be considered at the time of the construction of that trunk line.

However, nothing recommended herein will prevent the taking over of the power supply for either or both the IND Division and the Second Avenue Trunk Line by the City-owned power system and, should these lines be fed from the City-owned system, no changes other than increases in the facilities recommended herein will be needed.

### Recommendations Regarding Generation

**Modernization of Existing Plants**—The modernization of the City-owned plants is discussed in the following paragraphs:

(1) *59th Street Power Plant.* An immediate start should be made on the installation of complete new coal and ash handling systems to supply both the old and the new portions of this plant.

A second 62,500-kilowatt 25/60-cycle turbine generator with its boiler and auxiliaries should be installed immediately east of the present 25/60-cycle unit and duplicating that unit in its essentials. A 30,000-kilowatt 25/60-cycle frequency converter with its auxiliaries should also be installed.

Upon completion of the second 62,500-kilowatt turbine generator, two additional 66,000-kilowatt turbine generator units with their accessory facilities should be installed, but these units should be designed for the supply of 60-cycle power.

(2) *74th Street Power Plant.* A second 60-cycle turbine generator with its boilers and auxiliaries should be installed in the space anticipated by the design prepared for the unit now in construction.

(3) *Kent Avenue Power Plant.* An immediate start should be made on new coal and ash handling facilities to serve both the old and the new boiler houses, and to be suitable for the proposed additional facilities. Simultaneously, work leading to the installation of a third 850-psig. (pounds per square inch gage) boiler should be initiated.

This third boiler should be carried to completion at the earliest possible date to offset the unsatisfactory condition of the old boiler house.

A fourth high-pressure boiler and a new 66,000-kilowatt 60-cycle turbine generator should be installed immediately after the completion of the third 850-psig. boiler. Upon completion of this work, or incidental thereto, all equipment remaining in the old boiler house should be demolished.

Several subtransmission circuits should be disconnected from the 25-cycle bus in this station and reconnected to a supply from the switch house at First Street and Third Avenue, Brooklyn. Full replacement should be made for all power switchgear remaining in service after the transfer of circuits previously mentioned.

**Frequency Converter Station**—A frequency converter station containing three 30,000-kilowatt 25/60-cycle frequency converters should be erected on the City-owned plot at First Street and Third Avenue, Brooklyn.



**A New Power Plant**—The maximum rate of modernization and expansion of the existing plants is not sufficient to provide the necessary replacement of present facilities, the additional facilities for expected load growth, and also for system reserve, which is presently lacking. Therefore, a new power plant should be constructed containing, in its initial stage, two 95,000-kilowatt 60-cycle turbine generators with all steam and auxiliary facilities. This plant should be started as soon as possible but, in any event, not later than 1954.

**Outside Plant Facilities**—The recommendations regarding modernization of facilities outside City-owned plants are discussed in the following paragraphs:

(1) *High-Voltage Transmission.* To increase the reliability of the power supply and to reduce the capital cost of generating facilities, all present and proposed power stations should be interconnected by a high-voltage transmission system. The transmission system should be extended to form two closed loops which will supply transmission substations at points throughout the City.

A transmission substation should be installed adjacent to each existing and new power plant.

It is recommended that transmission substations be installed at other locations throughout the City as follows: 129th Street and Third Avenue, in Manhattan; Concourse Yard of the IND Division, in The Bronx; 38th Street and Fifth Avenue, in Brooklyn; Fresh Pond Yard of the BMT Division, in Queens; Corona Yard of the IND Division, in Queens.

(2) *Subtransmission Facilities.* Adjacent to but not a part of each present and proposed power station, and adjacent to each transmission substation, there should be installed a switch house, with transformation if necessary, to serve as the principal sources of power for the utilization substations. It is recommended that

the supply of power to each switch house be derived from the adjacent power plant or transmission substation.

**Modernization and Expansion of Conversion Facilities**—There are three main areas of consideration in modernizing and expanding conversion facilities:

(1) *Additional Utilization Substation Requirements.* The present policy of the Board of using 60-cycle mercury arc rectifiers for the conversion of alternating current to direct current should be continued. Rectifiers of 3,000-kilowatt nominal capacity should be continued as a single standard size.

One or two rectifier units should be used at each substation except in unusual instances, and then not more than three rectifier units should be installed.

All new rectifying facilities should be remotely controlled from one central point for each of the IRT and BMT Divisions.

(2) *Replacement of Obsolete Substations.* In view of the serious deterioration of certain present synchronous converters, a progressive program for retirement of these facilities should be instituted. To accomplish this, mercury arc rectifiers, as described above, should be placed at various points along the system to relieve the present facilities and ultimately permit their removal from service.

No substation built hereafter should supply power to more than one subway line on a normal operating basis.

(3) *Subtransmission and Distribution Systems.* Subtransmission circuits originating from the switch houses should be operated at 13.2 kilovolts or 26.4 kilovolts to match the standard 60-cycle power voltage of the Consolidated Edison system in the vicinity. Up to four rectifier units should be connected to a single subtransmission circuit.

**Organization**—The Board of Transportation should establish the policy of



requiring men with a high degree of training and experience both for supervisory and nonsupervisory positions. Such specialized training should conform to the operating and maintenance skills that will be essential with the new equipment and controls.

In advancing men to the higher grades, it should be established policy to insist that anyone who is considered for, or who is permitted to take examinations leading to, positions of complete or partial responsibility for the work of others in a modern station shall have pursued a course of training thoroughly qualifying him for the new position.

It is recommended that the operating control of the power system, consisting of the generating stations and the transmission facilities, be assigned to a system operating group, and that full instrumentation and necessary controls be provided at a central point.

The remotely controlled substations for each division should be controlled from a central point for each division, and an operating group should be established to effect the control. It is recommended that detailed cost records be maintained.

### **Joint Operation with Private Utilities**

**Station Power Ties**—Power ties of substantial capacity should be made from each of the power stations to the local power utility. These ties should be operated normally closed to achieve the maximum degree of reliability.

**Economy Loading**—The power ties mentioned above should be operated for power interchange to insure production of maximum economy to the City's system and the interconnected systems.

**Cost of Power—Generated and Purchased**—In the interest of maximum conserva-

tion of public funds, a specific comparison of costs of generated versus purchased power (future) must be made in arriving at the determination of the power source for operating the City subways. Studies of the cost of power production in the proposed modernized and expanded City-owned plants as given in this Report should be used in determining the economies of purchased versus generated power.

Of equal importance with the consideration of annual savings are the capital investment required and the ability of the City to continue the expansion as outlined.

In conjunction with these considerations, certain factors impossible of monetary evaluation must be accepted, which may (and perhaps should) influence the determination of the City's policy.

To a large degree, the present inadequacy of generation and substation facilities is the result of apparent inability due to war limitations hitherto to schedule equipment replacements on a long-term basis. That is to say, the need to finance replacements, which customarily is partially met by privately owned power utilities through accumulations in depreciation reserves, in the case of the City must be met through annual budget appropriations. The result is that financial stringency, resulting from causes not related in any way to the operation of the City-owned power system, can produce a very difficult situation wherein urgent needs for new equipment must be ignored.

To avoid a recurrence of the combination of circumstances which has resulted in the present inadequacy of facilities, it is recommended that a more stable means of financing improvements be established.



## MODERNIZING EXISTING POWER SUPPLY

### 59th Street Power Plant

With necessary structural changes, the station would be suitable for the installation of modern equipment. With such installation, and allowing for the use of part of the station for additional switchgear, the station can be developed to contain four high-pressure turbine generators with their suitable complement of boilers and auxiliary equipment delivering approximately 60,000 kilowatts each. As planned in this Report, two of the turbine generator units would be for 25-cycle operation, convertible to 60 cycles and, because of manufacturing standards, would be rated at 62,500 kilowatts at unity power factor. The other two units would be built for 60 cycles and, because of such standards, would have a rated capacity of 66,000 kilowatts at 95 percent power factor.

It is planned that the new boiler equipment will be designed and constructed to use pulverized coal as a basic fuel. This type of equipment can be adapted to use fuel oil whenever it is sufficiently low in price to be economically attractive. In the event of interruptions of coal deliveries or failure of the coal handling equipment, oil fuel is also convenient as a reserve and might be supplied from a captive oil barge tied up at the plant's dock, similar to that now used at 59th Street.

**Programing Plant Additions**—It would seem entirely reasonable that, early in any program, major generating equipment should be added to the 59th Street Plant, because it contains the oldest generating equipment still in limited active service (in the form of reciprocating engine generators). The elimination of this equipment is highly

desirable, if for no other reason than to prevent the return into the boiler water-supply system of water contaminated by the residue from oil mixed with the steam in the exhaust from the engines. It is absolutely essential to steam generation in modern turbines that the water supply be of a high order of purity.

It is the present plan of White Engineering that space reserved for switching and transformer purposes will be located at the east end of the plant. The obvious procedure would be to locate the next new generating unit in immediate proximity, and next in order, to the east of the 62,500 kilowatt unit now being installed. To accomplish this, it is planned to install the second 25/60-cycle 62,500-kilowatt generator in the engine turbine room immediately to the east of the first 25/60-cycle unit recently installed, but the early use of that space is not possible for two reasons:

(1) No space exists for a boiler or boilers of sufficient capacity on the boiler side of the house adjoining the recently made installation. Such space can be provided by removing the conveyors elevating coal from the cellar to the upper portion of the house for distribution to coal bunkers which serve old boilers as well as the 600,000-pounds-per-hour boiler recently installed.

(2) Space is limited in the turbine room between the new turbine and one of the three 35,000-kilowatt turbines now in the plant.

On the boiler room side of the house, space for boiler capacity might be provided by removing several of the boilers now supplying the low-pressure needs of the plant, but to do so would materially reduce the plant's present output capacity.



The first step in any new program would be to relocate the present coal handling facilities. Since no provision has been made for coal supply to the 600,000-pounds-per-hour boiler, other than from the previously installed elevating conveyors, it is necessary to design and install a conveying system, probably passing over the West Side Highway from the coal housing facilities on the plant's pier to and from the conveyors above the bunkers in the station.

The design of this plan is scheduled by this Report for an early date in 1952, followed by the design and installation of the second 62,500-kilowatt 25/60-cycle unit, together with one boiler for steam supply. With the completion of this second unit, the plant should have a firm 25-cycle capacity of 120,000 kilowatts, permitting all remaining reciprocating engine units to be shut down and many of the low-pressure boilers to be removed.

With this program accomplished as part of the modernization of the entire system, it will then be feasible to install a 66,000-kilowatt 60-cycle turbine to the east of the second 25/60-cycle unit. Coincidentally, and essential to this installation, the easterly end of the plant should be redesigned to accommodate switching facilities needed. The total installed capacity in this plant will then be about 250,000 kilowatts.

**Switching Facilities**—The present installation program for new power switchgear in the 25-cycle system has necessitated some modification of the switch gallery structure, and has made effective use of substantially all available space in the west end of the switch galleries. The experience with structural limitations at the west end in installing new facilities indicates that the

use of the east end of the galleries for the accommodation of the switching facilities should be avoided if possible. Therefore, it is proposed that the switching for the 60-cycle portion of the station, including the generator switchgear and the local subtransmission circuits, be housed in a structure in the east end of the present engine-turbine room and boiler house, where close physical association of this switchgear with the proposed transmission substation is possible (see "Transmission").

**Frequency Conversion**—The establishment of a 60-cycle medium-voltage bus in the same plant with the newly installed, 25-cycle medium-voltage bus tends to separate this plant into two independently operating stations, an undesirable condition which should be avoided. To overcome this tendency, two steps are recommended. The first involves the transmission substation which will be tied to the other 60-cycle generating stations of the system, thereby integrating the 60-cycle generation of this plant with all other 60-cycle generation. The second recommends the installation of a frequency converter, of approximately 30,000-kilowatts capacity, west of the proposed new 60-cycle switch house in the engine-turbine room, to permit interchange of power between the buses of the 60-cycle and 25-cycle systems. The converter will be usable also as reserve for the 25-cycle generation by using power drawn from other stations through the transmission substation. Thus the station will again effectively be made one. As the system demand at 25 cycles decreases with time, the use of the present 25-cycle switching facilities will decrease. The manner in which this switchgear will be put to further use must be deter-



mined by the rate of conversion of the system load from 25- to 60-cycle power.

**System Operation**—Space should be provided in the switch house for the recording facilities and other needs of the System Operator, as outlined later under "System Operation."

### 74th Street Power Plant

**Further Additions**—The 25-cycle turbines at the 74th Street Plant seem to be in fairly good condition and, properly maintained, should supply the plant's quota to the system's 25-cycle needs for some years to come, although they are inefficient when compared to modern turbines. However, because 25-cycle service to substations will tend to diminish with the modernization of the distribution system and the gradual changeover of such service to 60 cycles, these turbines' useful life is limited. These units are capable of quick starting and their temporary use for peak-load service has advantages.

Modernization of the steam supply at the earliest date possible is desirable, but speed and possibilities of accomplishing this are affected by the speed with which 60-cycle generation and modern boilers are introduced. The steam supply to the old equipment can then be either a by-product of the new boiler plant or of an adjunct thereto. The City has authorized the initiation of 60-cycle service to substations from its City-owned plants with the installation of a 66,000-kilowatt unit at 74th Street, plans for procurement of which are well under way. The part of 74th Street Plant in a modernization program depends largely upon whether the City installs a second 66,000-kilowatt unit to supply its growing needs of 60-cycle power and the speed with which the program of elimination of 25-cycle service is accomplished.

**Programing Plant Additions**—The first of two presently contemplated 66,000-kilowatt 60-cycle units operating at 1,250-psi. (pounds per square inch) pressure has been purchased and its installation planned, with initial operation scheduled for late in 1953. In the interest of reliability, and because it is the first unit of its kind in this system, steam supply will be from two boilers, either one of which will be capable of carrying a large portion of the unit's capacity. With the completion of the second of these boilers late in 1953, it will then be in order to remove, say, 16 of the old boilers to provide for a third boiler having the same capability as each of the first two installed.

In the meantime, depending upon the speed with which the City carries out its plans, and if it conforms with the schedule laid down in this Report, a second 66,000-kilowatt 60-cycle turbine will have been ordered early in 1952. The third boiler should be completely ready for operation early in 1956. In the interval between the initial operation of the second boiler and readiness for operation of the second turbine, steam should be available for service to the 25-cycle equipment through reducing valves. Although the amount will approximate only 25,000 kilowatts, the gain in efficiency, as well as reliability, of 25-cycle production should be appreciable.

When that point has been reached, little or nothing in the way of additions to the 74th Street Plant would be justifiable, pending the progressive shutting down and elimination of the 25-cycle turbine generators.

With the need for 25-cycle service ended, so far as the 74th Street Power Station is concerned, the equipment devoted to that service can be shut down



and space will then be available for more 60-cycle generating units. As presently foreseen, the plant's maximum capacity will probably be no more than 250,000 kilowatts.

**Other Features**—Attention of the Board of Transportation has been called to the desirability of having available for the modernized plant's use at all times a reasonably sized reservoir of oil, rather than depending solely upon a floating dockside supply. It has been recommended that oil tanks to contain such a supply for 74th Street be located on Welfare Island, immediately across the river from the plant. These tanks would be of the buried type and, for that reason, wholly unobjectionable. Proper provisions for unloading at the Island from seagoing tankers would make oil available with a possibility of material savings in first cost.

**Switching Facilities**—The program for this station includes the elimination of all existing 25-cycle-system power switchgear. To house the replacement switchgear and certain other facilities, a new switch house is to be erected directly west of the power plant building.

Since the program incorporates the first 60-cycle generation, it is necessary that a 60-cycle medium-voltage bus be established. Lack of suitable land area in the vicinity results in plans for a superstructure erected above the turbine rooms. This space can be expanded to incorporate all foreseeable requirements for medium-voltage 60-cycle switching equipment.

In line with the integration of the system, a transmission substation in the vicinity of this plant is proposed because, although elimination of the existing 25-cycle switchgear will make available certain floor areas, these are

not desirably situated nor arranged for the installation of new switching equipment. Two frequency converters of 20,000-kilowatt capacity each, now being installed, will make a single station similar to that of the 59th Street Station.

### Kent Avenue Plant

**Further Additions**—The Kent Avenue Plant occupies a unique position in the power generating facilities supplying the City's Rapid Transit System. With the exception of the new unit at the 59th Street Plant, it contains, in the form of superposed, or topping, turbines, the most modern equipment of any of the three plants. Since 1939, these turbines have generated at a very low coal rate, even in terms of good modern power generating practice. However, Kent Avenue is badly handicapped by very limited surplus floor area or outside storage space even though there is compensation in being located on a side arm of the East River (which affords tidal protection). Space limitations within the plant make it necessary to carry its fair quota of reserve coal supply in barges, rather than in bunkers or in storage space, but this protected water location has value as a "waterborne" storage area. High temperatures in the summer cause poor circulation of condensing water in this location and, consequently, some loss in efficiency that would not prevail otherwise. •

The Kent Avenue Plant also suffers under a potential hazard, or handicap, in that its close proximity to the naval shipyard makes it vulnerable to bombing. Another handicap, affecting availability for expansion, is the bad condition of the so-called old boiler room. Costly repairs of this unit invite the



recommendation that it be torn down and replaced, rather than expend a large amount to continue it in service.

**Programing Plant Additions**—The first and most essential step to be taken is to augment the reliable steam supply. The present highly efficient topping-turbine installation has but two boilers to serve its needs. Their undependability and the unsatisfactory condition of the old boiler house make necessary immediately the addition of a third boiler to the plant at the end of the so-called new boiler room.

This boiler unit would be combined with new coal handling equipment which would be connected with a temporary conveyor to the old boiler house. The plant supply can be "firmed up" only when steam from this new boiler is made available. It would be unwarranted and undesirable to install a new high-pressure condensing turbine at the west end of the "new" turbine room until, through major alteration of switching facilities, proper provision has been made for it. Hence, the necessity of postponement of this addition until a new switch house can be built.

With the first new boiler in place, and added steam supply available, demolition of the west end of the old boiler room should proceed. Installation in the vacated space of a fourth high-pressure boiler should further firm up the station's steam supply and provide its use in connection with the new high-pressure turbine, as well as for partially supplying the needs of old low-pressure turbines through reducing valves.

The installation of a new high-pressure turbine, having a capacity of approximately 60,000 kilowatts and operating at 60 cycles, would be possible only in late 1957 or early 1958. At the same time, the new switch house will be

built to occupy the east end of the old turbine room and the east end of the space previously occupied by the old boiler room.

This program of reconstruction will make space available for storage between the new switch house and the fourth boiler in the area previously occupied by the old boiler house.

**Switching Facilities**—Similar to that described for the other two plants, a switch house for new 60-cycle switchgear will be required at the Kent Avenue or east end of the old engine room and boiler house. A part of this space can be made available immediately, since the three 7,500-kilowatt turbine generators are not now serviceable. This will make possible the establishment of a 60-cycle bus without the elimination of needed steam or electric generating capacity.

The present switch galleries are very congested and a method to correct this condition has been developed in connection with the establishment of transmission switching and frequency conversion facilities at First Street and Third Avenue. This would reduce space requirements for switchgear in Kent Avenue Plant, and would permit orderly rehabilitation or replacement of present 25-cycle switching to the limit of ultimate station output. Adequate space for control and recording devices would also be obtained, as well as a new station control room in the proposed 60-cycle switch house.

Further integration of the system could be effected by a transmission substation on a portion of the area along Kent Avenue. The Kent Avenue Plant, for the first time, would be connected to the other two plants, thus accomplishing complete integration of the existing plants.



It is proposed, therefore, that frequency conversion needed to permit interchange of power between the two

buses be installed in a new facility to be erected at First Street and Third Avenue.

## ADDITIONS TO EXISTING PLANTS

The program, as presented, shows that only 160,000 additional kilowatts can be applied to the "incremental growth" of the City's transportation system's effective capacity, with due allowance for spare, making a total available in 1960 of 530,000 kilowatts.

The engineers' estimate of load requirements as of 1960 is 550,000 kilowatts, exclusive of any provision for service to Second Avenue improvements or to the Rockaway Beach Line. This would create a probable shortage of 20,000 kilowatts, although in about 1958 the deficiency will have been as high as 75,000 kilowatts if the system is wholly interconnected at that time. This deficiency will vary in magnitude from 1952 to 1960 and will be determined by the rates at which the expansion of transit facilities is accomplished and at which new power facilities are provided.

The Board of Transportation now purchases power from Consolidated Edison Company for supplying new substations installed to increase the capacity of the system at selected points. These substations are generally designed for 60-cycle service which is unavailable from the City plants. The plants are not capable of supplying normal demands on a firm basis, regardless of the frequency of the loads.

It is possible to continue the present practice for indefinite periods; that is to say, isolated, selected substations can be supplied by some source other than the City's power plants. Some difficulty in operating conditions may be experi-

enced, however, and an annual increase in cost may result.

An alternative would be to establish adequate capability in the City-owned system to avoid the continuance of deficiency. This would require the addition of a fourth plant integrated with the three present plants.

### New Plant Requirements

The City's plans for the development of the so-called Second Avenue subway lines and extensions, supplemented by any provision for the Rockaway Branch, will require a source for 120,000 kilowatts of additional generating capacity, not including reserve. If load-growth of 1960 is considered jointly with the provision for the Second Avenue and Rockaway lines, a new plant of the order of 250,000 kilowatts will be required, with allowance either for reserve capacity or for the purchase of power in similar quantity.

In the program outlined for the three existing plants, it is noted that improvement, additions, and retirement of over-age equipment cannot be achieved at a sufficiently rapid rate to permit the City plants to carry all loads of the IRT and BMT Divisions on a sound basis. The deficiency can easily be overcome by the purchase of power for the supply to selected substations.

If the City is to continue in the business of supplying power, early dating of a new plant would be of distinct economic advantage—in coal and labor savings and in speeding the retirement



of highly inefficient, heavily manned, present-day plants.

In the modernization program outlined for the 59th Street Plant, it has been assumed that the last two existing turbine generators will be removed to permit the installation of a new turbine generator, with no net change in station capability. There will result a temporary increase in power deficiency.

The summation of the three factors, that is, the constant deficiency in plant capability, the need to retire overage generators at 59th Street, and the expected 1958 date for beginning operation of the Second Avenue Trunk line, indicates that 1958 is the latest year in which a new plant should start operation.

### **Converter Station at First Street and Third Avenue**

As stated, it is undesirable to use space in the Kent Avenue Plant to house frequency converters. Therefore, since space for switching facilities is limited, it would be desirable to limit the number of medium-voltage circuits originating in that station or to consider other adjacent housing for the frequency conversion and some of the switching. Another site seems necessary also because of a heavy concentration of load in the Bay Ridge, South Brooklyn, and Borough Hall Sections. Because of this concentration, the number of local medium-voltage circuits required to serve these areas is relatively large and should be grouped so that three switching stations may supply them.

The area at First Street and Third Avenue, Brooklyn, owned by the City of New York and partly occupied by Brooklyn Central Substation of the BMT Division, is very suitable for use as a switching and frequency converter station. It is recommended that three

frequency converters of approximately 30,000-kilowatt capacity each be installed at this location, to be ready for operation as soon as possible (probably in 1955). The connections necessary to integrate this converter station with the system, and to introduce a high degree of its reliability in effecting the transfer of energy between the 25- and 60-cycle buses in the Kent Avenue Station, make it desirable to install a transmission substation at the First Street site. This would serve to connect the frequency converters to the 60-cycle part of the power system; power from that part of the system, after frequency conversion, could be fed to the Kent Avenue bus at 25 cycles. Operation similar to that at the 59th Street and 74th Street Plants would be achieved.

The addition of a switch house at First Street, to permit installation of medium-voltage switchgear from which subtransmission circuits originate, would serve as a substitute for the Kent Avenue Plant, where space for this equipment is not available.

It is recommended that some 25-cycle circuits now originating at the Kent Avenue bus be transferred to a new 25-cycle bus at First Street to permit modernization of the Kent Avenue switchgear and to provide a more diversified supply for added reliability to the subtransmission system.

The three installations at First Street may then be listed as: (1) a transmission substation to integrate this unit with the system; (2) a switch house to provide needed space in the Kent Avenue Station for switchgear modernization and to add reliability; and (3) a frequency converter station to provide means of transferring power between the 25- and 60-cycle buses in the Kent Avenue Station and permit excess capac-



ity in Kent Avenue to be supplied the system.

Space should also be provided for the

remote control equipment for the new 60-cycle substations of the BMT Division.

## TRANSMISSION

A saving in generation equipment and in subtransmission cables, ducts, and other facilities can be achieved by judicious selection of a group of points to be supplied with power by means of a high-voltage transmission system which would serve subtransmission centers. These, in turn, would supply utilization substations.

Improvement in reliability of the power system, which can be accomplished by the establishment of comparatively large capacity power ties between the generating stations, will require a smaller total amount of reserve than treating each plant as an isolated station.

A suitable transmission system will achieve operating economies from the ability to allocate power demands to selected stations and even to selected generators, without considering the location of the loads. For example, the normally lightly loaded periods, such as occur on Sundays, would require the use of only the most efficient machines in the system to supply the full load. Operating procedures may be developed to reduce the cost of operation for the off-peak periods.

As demands for 25-cycle power decrease with time, the ability to carry all load, practically all the time, on the 60-cycle system will be gradually realized. When this occurs, all 25-cycle generation will be eliminated and replaced by more efficient modern machinery without the need to retire simultaneously all 25-cycle synchronous converters.

**Transmission Details**—The general transmission system will be one in which all generating stations will be interconnected by means of high-voltage circuits, and all switching stations not directly related with generating stations will be served by high-voltage circuits. The system proposed incorporates two complete loops connected in such manner that each transmission substation, regardless of its geographical relationship to generation, is so tied into the system that it is served by one or more power plants; when served by only one power plant it is also served by another switching station. It may be restated that each switching station is supplied by at least one "first line" source generating station, or by two such connections, or by one such connection and one connection from another transmission substation (a "second line" source).

The transmission line between the 59th Street Plant and the 74th Street Plant will be common to the two loops. The transmission substations adjacent to these plants are to be connected by high-voltage transmission circuits. From the 59th Street Transmission Substation, the first loop is routed to the Kent Avenue Transmission Substation, thence to First Street, Brooklyn, Transmission Substation, thence to the proposed new power plant, thence to the Fresh Pond Transmission Substation, thence to the Corona Transmission Substation, returning from there to the 74th Street Power Plant.

Should the new power plant be developed on the site at the foot of 37th



Street, Brooklyn, the loop would be revised to the extent that a transmission substation in or near the Canarsie area would be inserted.

Should no such generating station develop at 37th Street, a switching station at 38th Street and Fifth Avenue is proposed. This would not be directly connected in the loop, but would be served by two circuits, one originating in the new power plant on Jamaica Bay and the other originating at the First Street Transmission Substation.

The second loop incorporates the high-voltage tie between the 59th Street and 74th Street Plants. From the 59th Street Transmission Substation, it would be connected to a transmission substation in the Concourse Yard of the IND Division, thence to a transmission substation in the 129th Street Yard of the old Second Avenue Elevated Line in Manhattan, thence to the 74th Street Transmission Substation.

The capacity of the transmission circuits must necessarily vary, depending upon their points of connection in the system. In those circuits tying to a transmission substation adjacent to a generating station, there should be sufficient capacity to permit the use of a generating equipment in other stations to serve as full reserve for the largest generator in the station.

In those circuits connecting to an isolated transmission substation, there should be sufficient capacity to permit normal servicing of equipment or accidental outages without impairing the ability to carry the load on the switching station adjacent to the transmission substation. This, however, may require the overloading, within acceptable limits of cable, of transformers and other facilities.

The consideration of these factors concludes that the voltage for the transmission circuits must be nominally 69 kilovolts. Consideration has been given to lower voltages, but it has been concluded that the least total cost will result from the use of 69 kilovolts. A further argument in favor of this selection, as against a lower voltage, is the necessity to carry cables of this voltage outside of the subway system, i.e., under city streets, where space is at a premium and the lower voltages would require more cable space.

The selection of 69 kilovolts requires certain major differences in equipment and facilities from those now in use. Among these are the use of outdoor switching facilities and the increased use of outdoor power transformers. Both are necessary because of the high voltage, since no acceptable method of installing this equipment indoors has been devised. A type of power cable (new to the City system) will be required, since the present high voltage on the system is 27 kilovolts.

### **Programing Transmission Construction**

A high-voltage transmission substation (interconnected by high-voltage underground cable) adjacent to each power plant has been proposed to minimize the difficulty of sending large blocks of power from one station to another or to other points in the system.

The program for each power plant includes the time at which construction of each plant should start operation. So that the earliest effective use of these facilities may be had, the transmission circuits between the Kent Avenue Plant and the First Street Transmission Substation should begin operation early in 1955 for the 25-cycle connections, and



early in 1956 for the 60-cycle connections. Earlier installation of the 25-cycle facilities is needed to use the frequency converters at First Street for supplying 60-cycle load from 25-cycle generation at Kent Avenue.

After the establishment of the 60-cycle connection between Kent Avenue and First Street, installation of station ties from the 74th Street Power Plant to the 59th Street Power Plant and from the 59th Street Power Plant to the Kent Avenue Power Plant will make possible power interchange among stations.

Soon thereafter, and for completion in late 1956 or early 1957, the connection of the 74th Street Station to the transmission substation at 129th Street should be installed. The connection from the 59th Street Station to the transmission substation at the Concourse Yard also should be installed, in order that the 60-cycle utilization substations being installed in the Bronx may be fed on a permanent basis soon after their installation.

For completion in early 1958, the following should be installed: those portions connecting First Street to 38th Street and to the proposed new power plant; the portion connecting 38th Street to the proposed new power plant; the portion connecting the proposed new power plant to the Fresh Pond Transmission Substation; and the closing section of the Manhattan and Bronx loop connecting the 129th Street Substation with the Concourse Yard Substation.

The conclusion of this work will result in a complete loop through northern Manhattan and the Bronx, but the loop connecting Brooklyn and Queens to the Manhattan power stations will lack two links. These should be completed late in

1959 or early in 1960 and will include the connections from the Corona Transmission Substation to the Fresh Pond Transmission Substation and to the 74th Street Plant.

The date at which a transmission circuit starts operation should be coincidental with, or later than, the date at which the transmission substations at each end of the circuit are available. This criterion indicates that the transmission substation and switch house at 59th Street should be ready in 1956. The transmission substation at 74th Street should be ready at the same time. The switch house at 74th Street is already programed and is expected to be completed late in 1953.

The transmission substation and switch house at Kent Avenue should also be completed by 1956 to permit the interconnection of the three stations.

The transmission substation and the switch house adjacent to the proposed new power plant should be installed simultaneously with the power plant.

The transmission substation and switch house at First Street and Third Avenue, Brooklyn should proceed with the installation of the first frequency changers and should therefore be completed early in 1955. The transmission substations at 129th Street and Concourse Yard should be completed early in 1957, and those at 38th Street and Fresh Pond, early in 1958.

The date at which the Corona Transmission Substation and switch house should be completed will be determined by the date at which the North Shore Branch of the Long Island Rail Road is converted to rapid transit operation. However, since the section of the loop connecting Fresh Pond Substation to the 74th Street Power Plant passes through the Corona Substation, it will



be desirable to establish a stub bus in Corona not later than 1959.

### Power System Ties

As stated, City-owned plants should be interconnected to increase reliability and permit scheduling of generation in the interest of maximum operating economy. For similar reasons, it will be desirable to connect the City's power system to power systems under private management which serve the same or adjacent areas. Such an interconnection will permit economy interchange of power between the City power system and private utilities, and will serve to permit reduction in gross reserves in all systems and to increase reliability by adding source diversity to the generating facilities.

Such interconnections are a subject of negotiation with the operating private utilities and no detailed recommendations are made except that a tie from each City power station, and perhaps from the proposed new plant, to a station in the Consolidated Edison

system or to the Long Island Lighting Company system might prove desirable.

### System Operation

The establishment of an integrated power-supply system imposes the need for a centralized control of its units. Economical operation of the system also suggests that load dispatching become a normal operation, and that the scheduling and assignment of load to stations, and even to individual machines, be in the hands of a highly skilled group at a central location.

The needs of this facility would be, as a minimum, means to obtain a continuous record of the condition of each station as to output, ability and economy; means for instant communication with the station operator at each station; authority to schedule and, on short notice, to revise scheduling of all equipment in each station; and, perhaps, authority to change system load demands by such means as orders for reduction of car heating, and other orders which would result in a cutting down of power demand.

## UTILIZATION SUBSTATIONS

### IRT Division

Substations in the IRT Division generally use synchronous converters to provide the direct current for train operation. These converters are housed usually in steel or brick buildings which occupy plots of considerable size. Utilization substations are located in residential and commercial areas, often appreciable distances from the subway or elevated routes they serve. The converters are connected to supply a direct-current bus in the utilization substation from which cables take the power to the contact rail.

The alternating-current supply to the synchronous converters is taken from a bus through low interrupting capacity circuit breakers. The alternating-current bus is supplied from either the 59th Street or the 74th Street Power Plant through one or more cables connected to the bus through low interrupting capacity circuit breakers.

In most substations, all cables supplying the alternating-current bus originate at the same power plant. In a few instances, switching operations allow a substation to feed from either of the two power plants; a few substa-



tions can receive all or part of alternating-current power requirements from the Consolidated Edison system. In general, each cable originating in a power plant serves only one substation; a few substations receive power from an adjacent substation. Certain of these service arrangements are intended to obtain a high degree of reliability, partly achieved by using a large number of cables to serve the loads in an area. Most substations sectionalize the alternating current bus, thus making it possible to isolate a portion of the substation (should serious trouble develop) and thus increase the over-all reliability.

### Disadvantages of Present Facilities

Low interrupting capacity circuit breakers, measured by modern standards, have become inadequate. Unprotected knife switches for isolation of equipment and other uses in the direct-current connections reduce reliability and are hazardous.

Operation of the alternating-current bus as a single supply, rather than sectionalizing it as a multiple supply, tends to reduce reliability and, more seriously, makes it serve as a by-pass around feeder reactors installed in the cable circuits from the power plant. The net effect of this by-pass is to make it difficult or impossible to reduce to some satisfactory level the interrupting capacity requirements on the substation circuit breakers.

Another disadvantage of the present method of supply on the IRT Division is the concentration of large amounts of conversion equipment in a single substation. This concentration of capacity presents a problem in providing suitable direct-current connections for the several lines served by a substation and

results, in some instances, in cross-connection of contact rails of crossing lines such as exists at the point at Third Avenue and 42nd Street where the Third Avenue elevated crosses the Queensborough subway. Such connections also introduce additional circuit length, with corresponding deterioration of voltage regulation and increases in power losses.

Since most substations feed two or more lines, a serious failure occurring in a substation could result in widespread delays and confusion. The present age and state of disrepair of the substation equipment tend to increase the possibility of such major failures.

### BMT Division

Most BMT substations are fed by one or more cables originating at the Kent Avenue Power Plant and supplying the substation directly, as is the practice on the IRT Division. However, most of these substations also have cable connections from the Kent Avenue Station which are tapped to provide supply for one or more other substations. With few exceptions these cable leads were so connected that failure at any point will render the cable unserviceable for supply to any of the substations. This reduces the availability of the cable and, more important, makes it an unreliable source of power.

Some BMT substations can be served also by Consolidated Edison, as an alternate to the Kent Avenue Power Plant. Since no BMT Division substations are in Manhattan, those portions of the Division use power from IRT stations.

Capacity concentrations and other disadvantages found in IRT substations apply substantially to the BMT substations.



## IND Division

The utilization substations of the IND Division consist almost entirely of mercury arc rectifiers, with only five stations using rotating equipment to produce direct current. The alternating-current supply to all IND substations originates from the 60-cycle high-voltage distribution system of the Consolidated Edison Company. Most of the substations are underground and on-line, and are usually accessible from the subway and street. This type of construction eliminates property cost and reduces the length of direct-current cables from the substation bus to the contact rail. Each IND substation generally contains no more than two rectifier units; in a few instances, more than two rectifiers are installed in a single station, and some off-line substations are in service.

## Systems Power Supply

The supply of the IRT and BMT substations is 3 phase, 25 cycle, 11.5 kilovolts (or 19 kilovolts nominal), and is usually run in underground cable largely within the subway structures.

The supply of the IND Division is 3 phase, 60 cycle, 13.2 kilovolts or 26.4 kilovolts. The choice of voltage is determined by the location of the source, 13.2 kilovolts being used in Manhattan and Bronx, and 26.4 kilovolts in Brooklyn and Queens, following general practice of Consolidated Edison. The supply circuits generally are tapped from the Consolidated Edison Company's normal distribution-system cables.

## Systems Operation and Maintenance

With a few exceptions, the IRT and BMT substations are manned and operated locally; exceptions are stations not in continuous service, each of which is remotely controlled from an adjacent

station. The substations of the IND Division are all arranged for complete remote control from the Central Substation in West 53rd Street, Manhattan.

With respect to maintenance of the IRT and BMT substations, several pertinent factors are involved. Expenditures for both material and labor have been rising steadily for at least ten years even though suitable adjustments to offset the increase in unit cost of material and labor are taken into consideration.

## Probable Retirement of Equipment

Age and loading are the largest contributors to the need for maintenance and repair. This is borne out by the maintenance costs established for the IND Division, which have maintained a fairly constant level. In contrast are the rising costs of maintaining the older IRT and BMT equipment, which reflect the accelerated rate of depreciation on the older equipment. It might be reasonable to conclude that the cost of maintenance is so excessive that annual charges for replacement and maintenance of new equipment would produce lower annual expenditures.

Other indications of approaching retirement of the substation equipment also exist. In several substations it was found that routine high-potential tests of equipment had been discontinued because such tests risked immediate equipment failure. In others it was found that rotating equipment is occasionally operated under light load for a period prior to being fully loaded, in order to improve insulation which has deteriorated sufficiently to absorb moisture during standstill.

Other substations utilize equipment whose condition in operation is hazardous to personnel.



Inadequate building ventilation sometimes results in extremely high temperatures within the substation structures. In some substations exit in the event of electrical failure would be difficult or impossible, since only a single exit is provided.

Conversely, some stations have been operating on continuously reducing loads, due principally to the elimination of surface and elevated lines. This development permits taking machines out of service for extended periods without affecting the ability of the substation to serve its load, thus adding many years to station life. Also, the retirement of one or more substations containing largely overage equipment, but also containing some younger and still serviceable equipment, allows transfer of serviceable equipment to stations having insufficient capacity or inadequate equipment. Both these possibilities for prolonging substation life are considered in this Report.

### **Proposed Replacement Program**

The bases for determining the order in which retirements should be made include all the preceding factors, as well as other phases of power supply such as housing. While substation structures appear to have many years of remaining life, in a few instances they appear to be close to the limit of their usefulness and should be retired.

Another factor in establishing retirements at a given time is the matter of stable operation of the generators to deliver a 60-cycle supply.

The substation replacement program will, for many years, result in a system in which both frequencies are used and in which substations serving adjacent portions of a single subway line would be supplied at different frequencies.

In itself, dual frequency supply has some advantage in diversity of supply. However, substantially all 25-cycle utilization equipment is in the form of rotating machines and it is characteristic of the machine that, upon reduction of voltage supply, it tends to continue to produce its rated direct-current voltage for a measurable time. Mercury arc rectifiers, of the type normally used for railroad service, will likewise continue to supply load upon reduced voltage on the alternating-current side so long as this controls the direct-current output voltage and has no possible feedback from other sources of direct current.

In a subway line fed by both rectifiers and rotating machines which operate substantially in parallel, the disadvantage is that the rotating machines tend to maintain a direct-current voltage upon loss or reduction of the alternating-current voltage, while the rectifiers will tend to decrease their direct-current voltage. This will usually result in the complete loss of load by the rectifiers.

Since the primary sources of the two types of equipment are completely independent of each other, a reduction in the voltage supplied to the rectifiers (from a 60-cycle source) will have no effect whatever on the 25-cycle power supply to the rotary equipment. The ultimate result of this could be that a decrease in 60-cycle applied voltage would result in a complete loss of power on the 60-cycle system in the area affected. Such a cable failure, resulting in a short-time reduction to a below-normal value of bus voltage, could cause the unloading of the generators in the generating station. This would decrease the stability of the system and could result in forcing one or more generators



out of step so that the turbine controls might take the generator out of service. Thus, the dual frequency system can produce secondary results of grave consequence.

The retirement at a given time of either all substations in a geographic area or all substations supplying a section of subway line is therefore recommended. The equivalent is sometimes achieved by selective installation of rectifiers to supply a subway line which reduces the load on one or more substations without eliminating any substation.

The program outlined for substation retirements does not recommend retirement of all 25-cycle facilities because the more recent installations are capable of continuing operations for as long as 20 years. Not included in the latter category are the synchronous converters now operating from 60-cycle supply on the IND Division. (These are 20 years old and may require replacement within 10 to 15 years.)

### **Policy and Procedure of Modernization**

In recent years the Board of Transportation has used mercury arc rectifiers in all new substations. Advantages of these over any other practical form of power conversion equipment include greater efficiency, lower maintenance cost, and high reliability.

Incidental to a program of installation of 60-cycle rectifier stations, the choice of a single, standard-size rectifier (unit rating of 3,000 kilowatts) in the proposed new system is well justified. Replacement and repairs are simplified, as is training of operating and maintenance personnel.

As the simplest case, each substation should contain one rectifier unit, with its switching, transformation, and aux-

iliaries. Similar installations in the IND subway used the subway structure as part of the substation enclosure; thus cost of structure was a small factor. But when cost of structure becomes an important part of the total cost, study should be made prior to the selection of the general arrangement of substations along a subway line.

The general studies almost always lead to the selection of one- or two-unit substations. The use of more than three rectifiers should be avoided since all the disadvantages of concentration, including increased capital cost and increased power losses, become appreciable.

### **Operation**

Substations on the IRT and BMT Divisions maintain a full crew for hours of operation. A few substations are arranged for remote operation, usually from an adjacent station. All substations on the IND Division have full remote control from the center in Central Substation on West 53rd Street, Manhattan. Savings to be realized from centralized operation indicate that all future substations should be arranged for remote control.

### **Location**

The location of the utilization substations on-line where possible is strongly recommended and, wherever possible, new stations should be placed underground for increased safety in the event of hostile action. The problem of providing adequate capacity under any set of normal or predicted abnormal conditions without involving excessive amounts of equipment is a serious one. Probable change in load in the vicinity (due to train schedule or routing changes), additions or rearrangement of trackage, and other factors not involving power equipment must be considered.



## SUBTRANSMISSION AND DISTRIBUTION

### Switching Stations

Sources of supply at different points throughout the City are identified as "switching stations." Advantages to be obtained through these include: reduction of length of cables operating at subtransmission voltages; a high degree of flexibility; and maximum reasonable degree of reliability. Switching stations should be located to produce the lowest reasonable cost for all facilities, including switching, cable plant, etc., and should house the necessary circuit breakers and accessory facilities for the 13.2-kilovolt or 26.4-kilovolt system which will carry power to two or more rectifier stations. Remote operation of these stations has many advantages, but is controlled in part by operating procedures.

Because of the proposed location, it will be necessary to construct street duct systems to reach the subway lines served by each switching station; however, the use of switching stations at carefully selected points throughout the City will greatly reduce the quantity of subtransmission cable needed; the total costs of the system, including street ducts, is considerably below that of a cable system with all circuits originating at the generating stations.

Switching stations will transfer the points of potential cable congestion from within the walls of the power station to some point of convenience between the main power stations and the utilization substations to be served. The rectifier stations served by a single cable should be nonadjacent and, if possible, on different subway routes; a maximum of four rectifier stations may be suitably served by one cable under this system but, in order to increase reliability, no

two adjacent utilization substations should be served from the same switching station.

Subtransmission voltages should be selected on the basis of the existing Consolidated Edison system in the respective areas in order to make possible rapid connections between the Consolidated Edison system and the City system, with each providing reserve or emergency supply to the other.

### Cable System

**Present Condition**—The present alternating-current feeder cable systems for the IRT and BMT Divisions are run largely within the subway structure. The system of supplying substations by individual cables has overcome the limitations imposed by the original small 3½-in. ducts, since small cables (and therefore small ducts) can be used. In changing over from operation at 25 cycles to operation at 60 cycles, some problems may be met because of these small ducts, due to the need for larger cables.

As substations are removed from service, the problem of future cable replacement may be greatly reduced. Some of the newer existing cables may be adaptable *for re-use*, but this should be determined as the substation program progresses. Duct space to allow for installation of new cables within the existing systems will also present a problem to be considered for individual cases.

The present plan of using multiple cables has a tendency to reduce the power loss in cables, but that loss is still high and means for reducing it should be considered if their capital cost is not excessive. The decision to adopt 60-cycle



generation obviates extension of the present 25-cycle system, but does not eliminate re-use of equipment whose function is independent of frequency, namely, cables, ducts and possibly some switching facilities. Some 25-cycle sub-transmission equipment will be continued in use for many years.

### Frequency Conversion

Proper allocation of power from both 25-cycle and 60-cycle sources of generation to the existing substations which will remain and will require 25-cycle, and to the new substations, which will require 60-cycle power, involves use of frequency conversion. This is unavoidable because the present retirement program of 25-cycle generation, in prefer-

ence for 60-cycle generation, cannot be effected simultaneously with the program for retirement and substitution of substations.

Frequency converters provide flexibility in the supply of power at two frequencies, permit selection of the turbine generators to be operated on the basis of economy, and permit the use of generators at either frequency as reserve for the entire system. Operating the frequency converters to supply 25 cycles at periods of light loads, as against the use of the present 25-cycle turbine generators, will result in savings, since the new 60-cycle turbine generators are far more economical in operation than the existing 25-cycle units.

## ORGANIZATION

### Duties, Responsibilities, and Effectiveness

The Power Department personnel devote a large part of their time to the problems of maintaining continuous service with inadequate facilities. The general record of continuity of power supply has been good.

During the war years, there was a shortage of manpower, and the required quantity of new material essential to maintain the plants was unobtainable. A substantial amount of deferred maintenance accumulated while, at the same time, the need for maintenance work tended to increase.

Although the number of operating posts has not increased over the years of private and public management, the total number of employees has increased because of shorter working hours, vacations with pay, holidays, and sick leave.

In modern plants, highly skilled, technically trained men are required for the majority of the operating posts, because outage of a boiler and its turbine unit is a far more serious event in a 2- or 3-unit station than it is in a station with 60 or more boilers and 8 to 12 generating units. Automatic equipment and centralized indicators and control systems require most careful watching and continued skilled maintenance in order to retain reliability; and the improper handling of an emergency involves much greater potential hazard to service and equipment than is the case with older multiple-unit generating stations.

Many modern power station operating crews include at least one, and often several, technically trained graduate engineers following up station economy, under suitable direction.

The classification of employment now in effect, and the existing lines of pro-



COST ESTIMATES OF PROPOSED MODERNIZATION PROGRAM

	1952	1953	1954	1955	1956	1957	1958	1959
59th Street Plant								
Coal handling system .....	\$ 5,327,000	\$ 6,955,000	\$ 8,780,000	\$				
High-pressure boiler and 25/60-cycle units ...	.....	.....	850,000	600,000				
Switch house .....	.....	.....	735,000	395,000				
Transmission substation .....	.....	.....	.....	5,782,000	\$ 9,588,000			
High-pressure boiler, 60-cycle turbine generator	.....	.....	.....	2,120,000				
Frequency converter .....	.....	.....	.....	.....	5,562,000	\$ 9,037,000		
High-pressure boiler, 60-cycle turbine generator	.....	.....	.....	.....				
74th Street Plant								
Boiler, 60-cycle turbine generator .....	6,163,000	5,372,000	651,000	520,000				
Transmission substation .....	.....	.....	.....	.....				
Kent Avenue Plant								
High-pressure boiler .....	3,519,000	2,258,000	.....	.....				
Coal handling system .....	3,150,000	4,179,000	3,622,000	.....				
High-pressure boiler .....	.....	650,000	850,000	.....				
Switch house .....	.....	656,000	464,000	6,200,000				
Transmission substation .....	.....	.....	3,100,000	.....				
60-cycle turbine generator .....	.....	.....	.....	.....				
New Power Plant								
Boiler and turbine generator .....	.....	.....	25,744,000	12,387,000	4,290,000			
Switch house .....	.....	.....	.....	1,025,000	256,000			
Transmission substation .....	.....	.....	.....	1,188,000	597,000			
Utilization Substation .....	14,900,000	18,900,000	24,000,000	24,900,000	25,800,000	23,200,000		
Transmission Systems .....	.....	4,570,000	12,976,000	18,814,000	2,074,000	2,960,000	.....	\$720,000
First Street Converter Station								
Switch house .....	.....	1,900,000	100,000	.....				
Transmission substation .....	.....	1,103,000	450,000	.....				
2 Frequency converters .....	.....	3,690,000	.....	.....				
1 Frequency converter .....	.....	.....	1,470,000	.....				
TOTALS	\$33,059,000	\$50,233,000	\$83,792,000*	\$73,931,000	\$48,167,000	\$35,197,000		\$720,000

\*Ed. NOTE: This total appears incorrectly in the published Report as \$83,692,000.



motion, should be carefully reviewed in order to satisfy the more precise needs of service in a modern high-pressure power plant. The degree of specialized knowledge required in both maintenance and operating practices will be much higher than has existed heretofore. Accordingly it is the opinion of the engineers that the Civil Service classifications should take cognizance of the more highly specialized skills that will be required in the future.

As the avenues of promotion open to certain lower grades of employees may lead either to maintenance work or operation, such "helpers" should be encouraged and guided in making an early choice of their future activities, and thereafter in specializing in either one or more, but not all, of the maintenance handicrafts or in one or more of the operating duties to which promo-

tion may be possible. With such specialized training and experience becoming the practice, the examinations for promotion should be conducted accordingly, in that each trade would be provided with its special examination. Likewise, each operating function should be similarly treated. It is true that this policy is practiced today. Its inclusion at this point in this Report is to emphasize the necessity of continuing a close adherence thereto if not actually improving thereon.

In the interest of developing and maintaining high standards of technical performance within the City's plants, serious consideration should be given to the adoption of ways and means, including proper examination for the enlistment of men qualified by experience and training in the operation of modern power plants.

## **COST ESTIMATE OF RECOMMENDED PROGRAM**

The modernization recommended in this Report is spread over the period 1952-1959. The total cost is estimated at \$325,099,000. This does not include other facilities planned, such as the

Second Avenue trunk line. The improvements recommended are listed in the table on p. 59, which indicates the year of cost incidence in conformity with the program.

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## **SECTION 3**

# **ACTION OF THE MAYOR'S COMMITTEE**

(1) Basic findings and recommendations of the Committee with respect to policy on administrative reorganization and on transit fares are set forth in

detail in Volume I, Chapter VI. These are briefly recapitulated below.

(2) We recommend the creation by State law of an authority to supersede



the Board of Transportation and to take over the operation of the subways, elevated, surface, and ferry transit facilities and appurtenances owned by the City of New York. We suggest that this authority be entitled "The New York Transportation Authority," that it be directed by a board of three appointed by the Mayor for overlapping six-year terms, and that it be administered by a general manager to be selected by the board. The board would be unpaid, except for a per diem honorarium, while the general manager would receive a salary of from \$40,000 to \$50,000 a year.

In addition to the transit facilities, we suggest that there be turned over to the Authority the operation and maintenance of all major City bridges, and possibly other transportation facilities, with power to place toll charges on them to help carry the cost of the rest of the transportation system and to integrate their operation with that of the other facilities.

The Authority would be empowered to extend its services beyond the City limits in the event of need, and it would be designed so that territories thus brought under the Authority might be represented on the board, with votes proportioned to the public investment of the territories involved in the entire transit system.

(3) The power to fix the rate of fare and other charges after public notice and hearing would be entrusted to the Transportation Authority under defined legislative standards. These standards would require the Authority to fix rates of fare adequate to meet the cost of current operation, other than debt service, provided that this results in a reasonable balance, in the judgment of the Authority, between maximum utiliza-

tion of the transit system and adequate revenues. In no case would a rate of fare be set higher than that needed to cover current expenses including operations, depreciation, obsolescence, and interest.

The Authority would be empowered to establish special rates of fare for school children and for week-end and off-peak-hour travel.

(4) We are confident that the Authority will be able to operate under these powers and with these sources of revenue without subsidy from the City beyond continued City assumption of the debt service. With a vigorous business-like management, the co-operation of the employees, the elimination of unnecessary and competing bus lines, the streamlining of transit service, the full development of secondary revenues, and the assignment to the Authority of other revenue producing transportation facilities such as toll bridges, it may even be possible to operate with a continued basic 10 cent fare. If not, a mild increase in fare, supplemented with off-peak-hour bargain rates, will cover all operating requirements so that a further subsidy should not be needed, except, perhaps during the first year of transition. If such a temporary subsidy is required, the existing authorization to issue short term bonds to cover the deficit should be extended by the Legislature for perhaps one year. We do not like this arrangement, but it is apparently the only thing that can be done during the transition to allow the Authority to arrive at its decisions with due deliberation after discovering what is required.

The Committee gave consideration to the further financing of the Authority in the event that the powers and facilities assigned prove inadequate but was



not able to reach an agreement as to the best method. As a matter of public information we, therefore, print several alternative methods of financing the Authority in the appendix of Volume I of this Report.

(5) General control over future extensions or the purchase of additional lines or facilities would continue to rest with the City, not the Authority, since the Authority would issue no bonds and undertake no major construction except as authorized and financed by the Board of Estimate and the City Council.

(6) We recognize that relations with labor remain the paramount operating problem, and call for a strong, modern employee relations unit in the Authority organization, with one section devoted to labor relations and one to general personnel administration, both headed by highly qualified executives.

The new transportation act must of course fully protect the existing rights of labor.

The need for adequate recruiting and training and development programs for skilled workers, supervising engineers, and executives has been emphasized in the Reports of both groups of engineers. Proper steps along the lines indicated should be instituted by the strengthened personnel unit.

(7) The details of improved departmental organization should be worked out by the general manager to be appointed; however, we endorse in general the departmental and operating organizational suggestions contained in the Day & Zimmermann-Coverdale & Colpitts Report.

(8) In view of rising transit deficits, we urge that every possible step be taken to achieve operating economies,

and in general endorse the economy moves recommended in the Day & Zimmermann-Coverdale & Colpitts Report, especially regarding the establishment of system and procedure units. However, we caution against any budgetary "economies" achieved at the expense of necessary modernization and maintenance, and urge especially that steps be taken to catch up on the deferred maintenance as outlined in the Day & Zimmermann-Coverdale & Colpitts Report, and that careful review be made of the recommendations in the same Report for modernization of signaling equipment.

(9) The accounting system for the Transportation Authority should be reorganized in accordance with standard public utility practice. This would make adequate provision for full cost of pensions, depreciation, and obsolescence, and would give the Authority a firm basis for its determinations.

(10) Necessary modernization and maintenance of power distribution facilities as called for in the J. G. White Report should be undertaken immediately. However, before entering into an expensive program of new power plant construction and modernization of existing generating plant, a firm rate for purchased power must be negotiated with the utility. If past rates are a criterion, further study may well show that there is no advantage in City generation over purchased power. Although there is no doubt that present rates for purchased power will be increased, and that construction costs of power facilities will likewise rise substantially above the basis of the estimates used by the consultants, the resulting final differential may well indicate that the City should now enter into negotiations with a privately operated



power company to arrange for the sale of the City's power plants and the purchase of all transit power in the future from the private utility.

(11) We note the estimate in the Day & Zimmermann-Coverdale & Colpitts Report that \$10,000,000 a year must be spent for the next 39 years on new cars for Rapid Transit. These needs should be carefully reviewed by the Authority and, if borne out, should be included in future current or capital budget estimates as may be appropriate.

(12) The experience of the City during the bus strike of January, 1953, indicates to the Committee that the public interest requires that an intensive study be conducted by an independent agency to determine which bus lines are still necessary. If a certificate of convenience and necessity could not be granted at this time, the bus line should not be continued solely because it has been in operation for many years. Continuing bus lines which have outlived their usefulness, many of which duplicate City-owned rapid transit fa-

cilities, imperils the existing fare structure and creates a serious traffic problem which could be avoided. The Board of Estimate should have this study available before deciding what tax and other adjustments should be given to the bus companies.

(13) The long-range solution of the entire transit problem of the metropolitan area will, in our judgment, involve not only the City's subways and surface lines, but also the private mass transportation facilities and, possibly, specified controls over parking and street, bridge, and tunnel traffic. A comprehensive program to deal with these matters will also increasingly involve the entire metropolitan area, reaching into both New Jersey and Connecticut. In view of the establishment by the States of New York and New Jersey of official commissions to deal jointly with certain aspects of this broad and intricate problem, we urge that the City co-operate fully in their program of inquiry.

NOTE: Dissenting and supplementary comments concerning transportation in Volume I, Appendix D.

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## CHAPTER XII

# Water Supply

### EDITORIAL NOTE

At the very start of its deliberations in 1950, the Committee on Management Survey was asked by the Mayor to add to its program of management studies an emergency examination of water supply policy. Along with this request, the Mayor transmitted to the Committee a plan presented by the Citizens Budget Commission for building a low dam, or "barrage," across the Hudson River, south of Chelsea, New York, as the next major element in the development of a new source of water supply for the City. This pumped supply was advanced as an alternative to the Board of Water Supply plan for an additional gravity supply from the West Branch of the Delaware River, known as the Cannonsville project. The latter project was so conceived as to permit it to become part of so-called "INCodel," a co-operative project with New Jersey, Pennsylvania, and New York (Interstate Commission on the Delaware River Basin, created by reciprocal legislation by New York, New Jersey, and Pennsylvania in 1949).

The Mayor's Committee accepted this urgent assignment and retained the services of four nationally known engineers to constitute the Committee's Engineering Panel on Water Supply: Thorndike Saville, Professor of Hydraulic and Sanitary Engineering and Dean, College of Engineering, New York University, Chairman; W. W. Horner, partner in Horner &



Shifrin, Consulting Engineers; Louis R. Howson, member of the firm of Alvord, Burdick & Howson, Consulting Engineers; and Abel Wolman, Professor of Sanitary Engineering, The Johns Hopkins University.

It is to be noted that the assignment of the Panel was one of review of broad policy recommendations as developed by the Board of Water Supply, the Citizens Budget Commission, and others. It differed basically from the other projects of the Mayor's Committee in that the Panel, while entering into detailed analyses and computations, was not organized or financed to undertake comprehensive original field work of its own. Accordingly, while its work penetrated deeply into the subject, its Report properly was designed to indicate the direction in which certain definitive engineering studies had to be undertaken, rather than to present all the final answers. Its main purpose was to present to the City, through the Committee, a broad line of policy—extremely important in this case, since a project for a dam and reservoir, once undertaken, commits the City irrevocably far into the future and runs into hundreds of millions of dollars.

The assignment did not include such aspects of over-all water supply and distribution as organization, personnel, design, construction, or distribution. However, because of its relation to supply problems, the Panel was asked to deal also with the general problem of leakage and adequate metering, although this request was not made until the major part of the work had been completed, and was, like the major assignment, directed at the formulation of policy rather than at the detailed management and engineering questions.

The engineers conducted their studies during 1950-51. Their Report to the Mayor's Committee on Management Survey was printed and made public by action of the Mayor's Committee on December 10, 1951.

Considerable additional material was developed as a result of conferences with members of the Board of Water Supply and experts introduced by them, relating particularly to the quality of Hudson River water, the costs of the proposed Hudson project as recommended by the engineers, and security problems in the event of war or sabotage. However, none of the addi-



tional material gathered by the Committee served to undermine the factual statements, findings, or recommendations contained in the Report of the engineers.

In its deliberations, the Committee received information and assistance from the Board of Water Supply and staff, the Commissioner and staff of the Department of Water Supply, Gas and Electricity, and from the New York State Department of Health, the City Department of Health, and the State Water Power and Control Commission.

Consideration of the Panel's Report extended over many months, since sharp differences of view developed on basic questions of quality, availability of supply, economy, and safety under enemy attack of the various sources of water under review. Complicating the situation was the fact that even though the need to proceed with actual construction of the Cannonsville project was considered by many no longer as urgent as it had been thought shortly before, a key move in ultimately carrying that plan forward was an application pending before the Supreme Court, which could well be jeopardized by an intimation on the part of the City that it was considering Hudson sources. Withdrawal of or delayed action on the application could well delay completion of Cannonsville beyond a safe date, if further studies should, after all, show that it would be indispensable.

The findings and action of the Committee, as indicated in Section 2 of this chapter, while not unanimous on all points, represent the final conclusion of the Committee as officially transmitted to the Mayor, along with all collateral documents, on April 9, 1952. It will be noted that while the Committee does not embrace the Panel's plan for use of Hudson water, and recommends that the City proceed with the Board of Water Supply's Cannonsville project, it does call for further detailed engineering studies of the Hudson as a major water supply source other than on an emergency basis. Because of divisions within the Mayor's Committee and the Subcommittee on Water, Section 2 contains, in addition to the action of the Mayor's Committee, the Report of the Subcommittee, and a Subcommittee Minority Statement.



## SECTION 1

# FUTURE WATER SOURCES

By

ENGINEERING PANEL ON WATER SUPPLY

The Board of Water Supply is responsible for supplying sources of safe and palatable water for New York City's 8,000,000 population. This was estimated to require a flow of some 1,160 million gallons per day, or 145 gallons per capita per day under normal conditions. In addition, the Board of Water Supply must plan ahead to meet the increasing per capita consumption as well as projected increases in population.

The operation and maintenance of New York City's water supply facilities is the responsibility of the Department of Water Supply, Gas and Electricity. This includes patrolling of reservoirs in New York State, as well as maintenance of dams, equipment, tunnels, and aqueducts, plus inspection and maintenance of 5,300 miles of pipes with 2,500,000 joints and 725,000 service connections above and below the surface of the ground within the City.

The purpose of this study by the Engineering Panel was not to undertake exhaustive new development plans and designs for water supply, but rather

to make an authoritative evaluation of proposals already made, and to make recommendations as to the source of supply which should next be developed by New York City. Some of the factors considered were the cost of obtaining the required amount of water of suitable quality, international or interstate complications, availability of required sites, and amount of time required in taking proposals from the planning to the operating stages.

### Historical Resume

In August, 1899, two investigations were started to determine what the next source of water supply should be. One was a study by the distinguished engineer John R. Freeman, and the other, organized by the Merchants' Association,\* employed a group of eminent hydraulic engineers including J. J. Croes, J. H. Fuertes, and George W. Rafter.

Both groups came independently to approximately the same conclusions; namely, that the Housatonic or its tributary, Ten Mile River, was the least expensive. Mr. Freeman recommended it, but the Merchants' Association did not, because of possible interstate difficulties.

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Digest from "Future Water Sources of the City of New York," by Engineering Panel on Water Supply, July, 1951; Thorndike Saville, Chairman; Wesley W. Horner; Louis R. Howson; Abel Wolman; and assisted by John C. Geyer and Norman D. Kenney.

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\*Now the Commerce and Industry Association.



The ultimate result of these two studies was that the City created the famous Burr-Hering-Freeman Commission in 1902, to make a further detailed study of alternate sources. In November, 1903, they brought forth their report, which included recommendations to develop several sources, one of which was later included in the Board of Water Supply's proposal presented on July 27, 1927.

The Board of Water Supply's plan was approved by the Board of Estimate and by the State Water Power and Control Commission in 1929. It contemplated construction in three stages:

First Stage—The Rondout Creek (a tributary of the Hudson) and the Neversink (a tributary of the Delaware).

Second Stage—The East Branch of the Delaware.

Third Stage—The Little Delaware, Willowemoc, and Beaver Kill (all Delaware tributaries).

The State of New Jersey, with Pennsylvania as intervener, applied promptly to the Supreme Court of the United States to enjoin the State and City of New York from diverting any of the waters of the Delaware or its tributaries. The Court's decision of May 25, 1931, prohibited the City of New York from diverting more than 440 mgd. (instead of the 600 mgd. requested) from tributaries of the Delaware. It also required the construction of a sewage treatment plant for Port Jervis and ordered dams and reservoirs to be operated so as to provide certain prescribed releases to the Delaware River in addition to the water diverted to New York City.

Work on the first stage of the Board of Water Supply plan was started in 1937, halted in 1943 because of the war,

resumed in 1946, and is expected to be completed in 1952. The second stage is now under way and its completion is expected in 1956.

In January, 1950, the Board of Water Supply secured approval from the Board of Estimate to proceed with a new plan for the third stage of its 1927 proposal. This plan omits the Little Delaware, Willowemoc, and Beaver Kill developments, and substitutes a development on the West Branch of the Delaware near Cannonsville, to produce approximately 345 mgd.

Meanwhile, the Citizens Budget Commission in February, 1950, urged that careful study be given to a proposal by Lawrence T. Beck to construct a low dam with gates and navigation locks across the Hudson River near Chelsea, and to pump and filter 500 mgd. of the river water into the Delaware Aqueduct for delivery to the existing reservoirs.

In August, 1950, the Interstate Commission on the Delaware (Incodel) presented a plan dealing with the complete development and regulation of the entire Delaware River System. This proposal contemplated a dam at Cannonsville at approximately the same site as planned by the Board of Water Supply in its presently proposed third stage described above, to deliver 240 mgd. in a first stage and 510 mgd. ultimately.

### Population and Water Consumption

Any valid plan for future water supply sources must be predicated on future consumption and, therefore, future population. The Engineering Panel on Water Supply has studied the estimates of future population made by the following people and organizations: J. R. Freeman in 1900; the Board of



Water Supply in 1922; Regional Plan Association in 1941; Consolidated Edison Company in 1946; New York State Department of Commerce in 1949; Board of Water Supply in 1949 and 1950; and Incodel in 1950. From these estimates and further detailed analysis, the Panel made its own estimate of future population.

The Panel then made a separate analysis of estimated future per capita consumption. It applied these estimated per capita consumption figures to the

estimates of future population, and reached the consumption to be expected in future years. The foregoing does not mean that each person uses water at the rate so determined upon, because total annual consumption includes industrial use and the use of commuters. It does, however, integrate all factors that influence water consumption within a community. From their analyses, the Panel arrived at the estimates of future population and consumption shown in the table below:

ESTIMATED FUTURE POPULATION AND WATER CONSUMPTION

Year	Population New York City  (millions)	Per Capita Consumption  (gpcd.)	Consumption in the City  (mgd.)	Consumption outside the City  (mgd.)	Total Consump- tion  (mgd.)
1950	8.0	145*	1160*	40*	1200*
		121**	951**	29**	980*
1960	8.5	155	1315	50	1365
1970	8.8	162	1425	70	1495
1980	9.0	168	1510	90	1600
1990	9.15	172	1575	105	1680
2000	9.25	177	1635	120	1755

\*Estimated consumption without emergency conservation measures.  
\*\*Actual consumption as affected by emergency conservation measures.

WASTE RESTRICTION AND METERING

Waste and waste control are extremely important in any conclusions regarding development of supplies, and, accordingly, the Panel was requested to examine in some detail the problems of waste and the opportunities in metering.

Leakage from Street Mains

There are approximately 5,300 miles of water pipes in New York City streets with 2,500,000 joints and 725,000 service connections. In most cases water mains are paralleled by sewers to which leakage from the water mains may es-

cape undetected. Most of the larger cities are organized to detect and correct this leakage from the distribution mains.

In New York City, eight crews of five men each are nominally assigned to waste detection on the 1,639 miles of mains in Manhattan and the Bronx, although they perform other duties, such as pressure regulation, gradient surveys, service boundary extensions, trunk main operation, district pitometer gagings, hydrant flow tests, etc. The other Boroughs have no routine checking procedure.



In 1948, the crews located 264 leaks, which saved 20.81 mgd., and in 1949 located 368 leaks, which saved 29.39 mgd., at costs reported at about \$4,000 per mgd. saved. Amortized over ten years on a straight-line basis, the cost of the water saved would be \$1.10 per million gallons.

Data given to the Panel indicate the infiltration of some 20 mgd. of fresh water into the sewers on the East Side of Manhattan from 26th Street to 61st Street. Whether this is ground water or water from water supply pipes can be revealed only by a complete investigation. If this and similar amounts elsewhere are derived from water main leakage, a double saving will be made by correction—that is, less water used and less water treated in sewage treatment plants.

Results obtained in other large cities through the employment of a substantial force of leakage-detection crews show New York City to be far behind in this phase of operation. New York City spends \$89,300 per year for leakage detection, while Chicago spends over \$500,000. Detroit employs ten crews to locate and repair leaks. New York City employs eight crews who spend part of their time assigned to waste detection in Manhattan and the Bronx, and no time on the other three Boroughs.

Experience in other cities indicates to the Panel that effective underground leakage and waste elimination procedures in New York City should result in a saving of at least 100 million gallons per day, and perhaps as much as 200 mgd.

### **Waste on Consumers' Premises**

The water conservation program initiated in October, 1949, decreased con-

sumption during the period from October, 1949, to January, 1950, by 276 mgd. from that of the same period of 1948-49. In June and July of 1950, the consumption decreased 280 mgd. from that of June and July of 1949. Savings achieved by these voluntary measures indicate that adequate conservation measures can eliminate waste.

### **Metering**

In a report dated November 6, 1947, the Water Supply Conservation Subcommittee of the Mayor's Executive Committee on Administration concluded from a sampling survey of 2,832 buildings that there was plumbing fixture leakage of at least 200 million gallons per day. Of this amount it was estimated that 110 mgd. could be saved through periodic two-year surveys or 80 mgd. saved through four-year surveys.

The period of rapid increase for the unmetered use of water in New York City was from 1942 to 1947. The 1940-42 annual average was 660 mgd. This increased spectacularly to 835 mgd. in 1947 without any corresponding increase in population.

In the November 6, 1947, report, the following statement indicates a major reason for the large increase in unmetered consumption from 1942 to 1947:

During the war years, when labor and material became scarce for building maintenance, the repair of leaking fixtures within buildings became progressively worse. Meanwhile, the tenancy which would normally have complained of inconvenience and waste of water, has become accustomed to neglect of such repairs. Today building management apparently makes repairs, especially in the moderate and low rental structures, only when the leakage may do dam-



age to property. This conclusion is definitely supported by a survey made by the Department of Water Supply, Gas and Electricity from February 1 to July 1, 1947. This survey covered 2,832 buildings in the Borough of Manhattan, chosen to give a cross-section of what could be expected throughout the City, which disclosed 9,142 leaking water outlets, or an average of more than three leaking fixtures per building. Basing the computation of leakage of  $\frac{1}{3}$  gallon per minute for water closets and only  $\frac{1}{12}$  gallon per minute for faucets, it is estimated that the leakage uncovered showed a waste of 2,237,782 gallons per day for the area surveyed. On this basis it is estimated that the City is wasting at least 200,000,000 gallons of water every day through leaking plumbing fixtures.

Cleveland reduced its daily consumption from 172 gallons per capita per day in 1901 to 98 gallons per capita per day in 1909 by metering. The Boston Metropolitan water district reduced its consumption from 128 to 90 gallons per capita per day in the period from 1907 to 1915, during which the percentage of services metered was increased from 20 percent to 70 percent. Boston today,\* with 99.8 percent of its services metered, has a consumption which averages 116 gallons per capita per day. New York City, with only 26.5 percent of its services metered, averages 146 gallons per capita per day. The consumption in 8 cities averaging 17 percent metered services is 73 gallons per capita per day greater than that of 18 cities averaging 90 percent.

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\*ED. NOTE: These figures refer to 1949.

New York's population density per square mile is six times that of Los Angeles and almost double that of Detroit. This means that the average consumer in New York does not have the opportunity to use water about the home for much more than simple amenities and personal cleanliness. Since Los Angeles is in a semi-arid and warmer climate, with much more attention given to yards and flowers, its use of water for home beautification should be much greater, proportionately, than New York City's. The actual consumer use in New York is probably less than 40 gpcd. Assuming that universal metering would cause a reduction of only 30 gpcd. from the unmetered domestic 80 gpcd. now estimated, the total effect would be to reduce requirements by 240 mgd.

During the 1949-50 conservation campaign there was a reduction in domestic consumption of about 25 gpcd.

From these data the Panel believes that a universal metering program would save from 100 to 200 mgd.

Under the date of December 18, 1947, the Water Supply Conservation Subcommittee of the Mayor's Executive Committee on Administration concluded that universal metering in New York would cost \$39,000,000, would increase the gross revenue by \$9,400,000 per year, and would save 220 million gallons of water per day.

*The Panel believes that, by the application of waste detection and correction procedures, including metering, New York City can reduce its water requirements by 300 million gallons a day.*



## COMPARISONS OF CURRENT WATER SUPPLY PROPOSALS

### Rejected Water Supply Proposals

Several proposals included in the Panel's study were early rejected as unworthy of further consideration. These proposals, with a very brief reason for rejection of each one by the Panel, are listed below:

(1) *Long Island Ground Water Sources*—reserved for the people of Nassau and Suffolk Counties, by ruling of State Water Power and Control Commission

(2) *Adirondack Sources*—unduly expensive

(3) *Great Lakes and Lake Champlain*—too great an initial cost and serious international complications

(4) *Susquehanna Sources*—unduly expensive because of distance

(5) *Streams East of the Hudson*—legal obstacles and great expense of supplying sufficient quantities.

The Panel feels that development of additional Catskill or West Hudson sources should be explored thoroughly, not as a means of developing a major additional new source of supply, but rather as a possible effective means of moderately increasing the yield obtainable from an existing source.

### Upland Sources

**The Incodel Project**—This project was undertaken to devise a plan by which the States of New York, New Jersey, and Pennsylvania might construct and operate an integrated water project in the upper Delaware Basin for their mutual use and benefit.

Incodel's report sets out a well-integrated plan of utilization of the water resources of the Delaware River Basin from the point of view of the primary interests of (1) the development of urban water supply; and (2) augmenta-

tion of the flow of the Delaware in periods of low run off.

Stage 1 of the project is composed of the following elements:

(1) A storage reservoir on the West Branch of the Delaware River at Cannonsville with a total capacity of 118 billion gallons. This reservoir would be used primarily for the purpose of furnishing water in order to increase low river flows in the entire length of the river.

(2) A diversion dam on the main river near Barryville holding about 10 billion gallons. The major purpose of this dam will be to permit the diversion of flood flows for water supply and stream flow regulation.

(3) A storage reservoir with a total capacity of 278 billion gallons on the lower Neversink River and on Basher Kill extending from Godeffroy to Phillipsport. The principal function of this reservoir will be to store the flood flows which are captured at Barryville and transported therefrom by tunnel connection between the two structures.

(4) A transmission tunnel from the upper part of Godeffroy Reservoir to New York City's existing main supply tunnels in Brooklyn. From this common transmission tunnel, connections would be made to the major water supply systems of Northern New Jersey.

Stage 1, Alternate A (described here as being the most applicable of Incodel's proposals for supplying New York City's needs), total storage of 406 billion gallons, will provide the following benefits: 131 billion gallons (32.2 percent) will furnish 465 mgd. water supply to New York and Northeastern New Jersey and compensating releases to increase dry weather stream flow; 185 billion gallons (45.6 percent) will



provide the additional releases needed to raise natural low stream flows at Trenton to 4,000 cfs. in driest years; 90 billion gallons (22.2 percent) will provide minimum conservation lakes in the reservoirs of about one-third maximum reservoir depths.

Provision in Stage 1, Alternate A, for equalizing storage, chlorination and future filtration is made on the main tunnel in New Jersey east of the Ramapo River. Long storage is provided in the Godeffroy Reservoir to reduce the color and improve the general quality of the water. The rock tunnels, elastic earth dams, and connections to transmission systems near centers of consumption provide, in the event of possible war, a substantial additional degree of security for water supplies within the areas served.

The total construction cost estimated at prices prevailing in midyear 1950, but excluding cost of construction of self-liquidating power facilities, and the amounts allocated to water supply and stream flow regulation for Alternate A of Stage 1, and the totals are as follows:

ALTERNATE A	
Estimated Construction Costs .....	\$516,932,100
Allocation	
To Water Supply, including stream	
flow regulation to compensate for	
diversion .....	\$415,503,100
To Additional Stream Flow Regulation	\$101,429,000

The total estimated net average annual costs and the amounts allocated to water supply and stream flow regulation are as follows:

Estimated Annual Costs .....	\$ 23,319,400
Less Estimated Return on Power .....	700,000
Net Annual Cost .....	\$ 22,619,400
Allocation	
To Water Supply and Compensation	
for Diversion .....	\$ 18,095,500
To Additional Stream Flow Regulation	\$ 4,523,900

As shown in the tabulation, the average cost to develop, compensate for diversion, and deliver 465 million gallons per day would approximate \$18,095,500 per year. Thus under Alternate A of Stage 1, the cost of water at dependable yield capacity becomes about \$106 per million gallons.

From the viewpoint of New York City, the fact must be recognized that the cost to it per million gallons under the Incodel Plan would be substantially twice as great as would be involved in proposals for its own direct taking of an equivalent amount of additional Delaware water.

It should be noted that procedure under the Incodel Plan would involve the following steps:

(1) The working out of a satisfactory interstate compact, the approval thereof by the four States and the Congress of the United States, the setting up of an interstate commission and modification of the Supreme Court's decision.\*

(2) An agreement by the four States to pay to the commission the annual charges for stream flow regulation, which for the State of New York is set up as \$1,130,000, and the benefits of which are enjoyed chiefly by New Jersey and Pennsylvania.

(3) The securing by the commission of firm contracts under which the City of New York and the northern New Jersey agencies would commit themselves to pay the annual charges indicated. In the case of New York City, this total annual charge for 240 mgd. supply is indicated as about \$9,350,000, or \$106 per million gallons. This would be the amount

\*This decision of May 25, 1931, prohibited the City of New York from diverting more than 440 mgd. from the tributaries of the Delaware, required the construction of a sewage treatment plant for Port Jervis, and ordered the system of dams and reservoirs to be operated so as to provide certain prescribed releases to the Delaware River in addition to the water diverted to New York City.



which would have to be paid from the beginning of the available service throughout the amortization period, or for approximately 30 years. Thereafter, presumably the City's cost would be reduced to a figure representative of operation and maintenance.

This plan offers no better quality, no more secure delivery, and no more reliable yield than several alternative sources. In addition, the purchase price for the first 30 years would be much greater than that of any proposed alternative scheme. Therefore, considering the complex legal and political obstacles involved in this plan, the Panel is of the opinion that the Incodel Plan should not be adopted at this time.

**The Board of Water Supply Cannonsville Project**—At a reasonably competitive price, this project can furnish the greatest amount of water of any project involving the development of upland sources. It has a major disadvantage, however, because it requires an expensive tunnel which would not be used if the Incodel Plan were adopted. If the Incodel Plan is adopted, the Board of Water Supply expects to abandon its Cannonsville project estimated to produce 345 mgd. at a cost of \$48 per million gallons delivered, and to purchase instead 240 million gallons a day from Incodel at a cost of \$106 per million gallons. It is also left with unused Delaware Aqueduct capacity.

The Board of Water Supply has altered the third stage of the Delaware River diversion plan, as submitted to the City and State authorities and to the Supreme Court between 1927 and 1930. It abandoned the proposal to utilize water from the Little Delaware, Willowemoc, and Beaver Kill, and substituted a plan for diversion from the West Branch of the Delaware. This plan proposes:

(1) An earth-fill dam 170 ft. high located near Cannonsville in Delaware County, New York. The drainage area tributary to the dam is 450 sq. miles.

(2) A reservoir containing about 97 billion gallons with flow line at 1,150 ft. above sea level.

(3) A tunnel 44 miles long from Cannonsville Reservoir to Rondout Reservoir, with a tentative design capacity of 500 mgd. A shorter tunnel to Pepacton Reservoir is not feasible because this reservoir is higher than Cannonsville.

The cost of dam and reservoir is estimated at approximately \$59,300,000, and that of the tunnel at \$80,700,000, or a total of \$140,000,000.

The total safe yield in the driest year is estimated at 388 mgd. However, the City proposes to divert only 323 mgd. The remaining 65 mgd. is regarded by the City as ample to satisfy U. S. Supreme Court requirements for release water for stream regulation on the main Delaware River.

Studies of actual yields of the Neversink and East Branch since the Supreme Court case of 1930 have indicated that the releases required by the Court can be met and still divert 48 mgd. more than the 440 mgd. permitted by the Court. Moreover, the Board of Water Supply has found that the previously adopted safe yield of 100 mgd. from Rondout Reservoir can be increased to 127 mgd.

The application of the City approved by the Water Power and Control Commission therefore contemplates requesting permission of the Supreme Court to divert 323 mgd. from the West Branch at Cannonsville, and to increase the diversion from Neversink and East Branch by 48 mgd., or a total addition of 371 mgd. beyond the 440 mgd. now permitted from Delaware tributaries.



The weighted average annual releases required by the State Conservation Department total about 33 mgd. Deducting this from the proposed safe yield of 938 mgd. produces 905 mgd., which is just about the rated capacity of the Delaware Aqueduct under best operating conditions.

The decision reached after the aqueduct was under construction to change the third stage and to develop Cannonsville, presumably in order to obtain a large additional supply, accounts for the difficulties attendant upon the use of the aqueduct to deliver large quantities in excess of the minimum safe yield of the Delaware system.

The current proposals of the Board of Water Supply to (1) construct the Cannonsville project and (2) to obtain 48 mgd. additional from the Neversink and East Branch constitute the third stage of the Rondout-Delaware project. If this is authorized and completed, water will then be available so that the entire system can deliver a safe yield of about 905 mgd. If the safe yield of 560 mgd. from the first two (authorized) projects is deducted from 905 mgd., the net addition due to the third stage would be about 345 mgd. Of this amount 33 mgd. (48 mgd. less 15 mgd. needed for State conservation releases) would be obtained at no additional construction cost, and the addition due to the expenditure of the \$140,000,000 required to obtain West Branch water would be 312 mgd. or a cost of \$448,000 per mgd.

However, it may be considered that it would not be worth while to seek Supreme Court approval for the extra 33 mgd. net mentioned unless the entire project were to be consummated. On this basis (345 mgd.) the cost would be \$405,000 per mgd. The Panel uses this cost in comparing the Board of

Water Supply Cannonsville project with other projects.

It is estimated that the project will take ten years to complete, after permission has been received from the Supreme Court of the United States. The Board of Water Supply has recently indicated its willingness, should such permission be received, to proceed with the construction of the Cannonsville dam and reservoir, deferring to 1960 the construction of the tunnel from Cannonsville to Rondout. If the Incodel program becomes a reality before 1960, the Board indicates its readiness to sell the Cannonsville development to Incodel, and to obtain the additional supply needed by purchase from an Interstate Authority. This proposal also contemplates a different basis for interstate releases from Delaware tributaries than is presently permitted under the rulings of the Supreme Court.

**Projects Utilizing Cannonsville for Release Water Only**—These contemplated the construction of a dam and reservoir on the West Branch of the Delaware River near Cannonsville from which water would not be diverted to New York City. Instead, this development would be utilized to store water during periods of high flow and to release water during periods of low flow to provide the interstate releases to the main Delaware required at present by the U. S. Supreme Court or subsequently by interstate agreement. By such a procedure, it is contemplated that the releases required under the existing decree for such purposes from the Neversink and East Branch developments would be made available for additional diversion to New York City, as would similar releases likely to be required from any future developments on other Delaware tributaries con-



structed for New York City water supply purposes.

The proposals reviewed are as follows: the construction of Cannonsville as part of the Incodel Project; the construction of Cannonsville by New York City for release water only; the construction of Beaver Kill Project after development of Cannonsville for release water.

The Panel has suggested a two-stage development involving first the construction of a lower and less expensive dam at Cannonsville, which could result in the provision of nearly 100 mgd. without the necessity of a new tunnel and therefore at much less cost per mgd. than the Board of Water Supply project. Then by construction of a dam and reservoir on Beaver Kill, of smaller dimensions but at the same site as a development earlier proposed by the Board of Water Supply, a total additional supply of some 183 mgd. could be obtained, also at less unit cost than by the Board of Water Supply project. In the event that the ultimate determination for a new supply is to continue the development of upland sources, the Panel would suggest that no decision be made until the two-stage Panel proposal had been thoroughly explored. It appears to have a number of advantages over the Board of Water Supply project.

The Panel's estimates of cost and analyses of benefits of the several proposals for utilizing Cannonsville for release only with subsequent development of Beaver Kill and Willowemoc Creek by damming have necessarily been approximate and incomplete. However, it feels that the results of exhaustive examination of these proposals would indicate that this or a similar series of step-by-step developments would be the most advantageous *if*,

*despite the Panel's conclusions regarding the Hudson, the next addition to the water supply is to come from the upland sources.*

### **Additional Development of Schoharie Creek and Effect of Aqueduct Capacity**

The principal works of the Catskill system are two reservoirs which impound the waters of Esopus and Schoharie Creeks, Shandaken Tunnel, and the Catskill Aqueduct.

Shandaken Tunnel transports water from the Schoharie Reservoir through the mountains to Esopus Creek above Ashokan Reservoir. Water is carried from Ashokan Reservoir 75 miles south to Kensico Reservoir through the Catskill Aqueduct. Although these works have functioned satisfactorily for many years, there still remain opportunities for increasing the total safe yield by constructing an additional reservoir on Schoharie Creek and reinforcing the Catskill Aqueduct.

If a storage reservoir were constructed at Lexington, and the Esopus and Schoharie storages were operated as a combined system, the two present reservoirs with the smaller one at Lexington would increase the yield of the Catskill system from 555 to about 610 mgd., an increase of 55 mgd. The larger reservoir combined with the other two existing ones would increase the yield by approximately 95 mgd., or to a total of 650 mgd. Because of the relatively small area above the Lexington dam site, 134 sq. mi., a carefully devised plan of operation would have to be followed to assure that Lexington Reservoir was filled more or less simultaneously with Ashokan, and that Schoharie Reservoir did not spill before either of the other reservoirs was full. Detailed



study of past stream-flow records indicates that such operation is possible. The assumption that all storage can be combined and considered as serving the entire drainage area is, therefore, believed to be valid. In view of the very uncertain nature of the cost figures and in view of the advantages of the plan, the possibility of improving the Catskill system by adding another reservoir at Lexington should be carefully re-examined.

The present usable capacity of the Catskill Aqueduct is about 650 mgd. During the 1949 emergency, 664 mgd. was delivered from Ashokan by releasing some 200 mgd. from the Catskill Aqueduct into Croton Lake and by operating the Kensico bypass. Since this method of operation results in higher pumping costs within the City, it is considered undesirable. Therefore, in view of the possibility that occasions may again arise when it will become necessary to deliver the maximum possible amount of water from Ashokan, it appears desirable to improve the carrying capacity of the Catskill Aqueduct, even though the safe yield of the Catskill system is not increased by the construction of an additional dam at Lexington. Various schemes for achieving this objective have been developed.

### **Current Proposals for Utilizing the Hudson River**

The Hudson River has its origin as a turbulent mountain stream in the highest peaks of the Adirondack Range at an elevation of more than 4,000 ft. above sea level, and its watershed lies almost entirely within New York State. The southerly slopes of the Adirondacks through which the Upper Hudson flows are generally mountainous in character, heavily wooded, dotted with numerous lakes and ponds, including such well-

known bodies of water as Indian Lake, Schroon Lake, and Sacandaga Reservoir.

The principal upland branch of the Hudson River is the Mohawk River, which rises in the sandy hills of Oneida County approximately 1,800 ft. above sea level. It flows in a generally south and east direction to its junction with the Upper Hudson at Waterford, New York.

The largest tributary of the Mohawk River is Schoharie Creek, with a drainage area of 930 sq. miles of heavily forested terrain in the heart of the Catskills. It is on this creek that Schoharie Reservoir, one of the important elements of the New York City water supply, is located.

Below the junction of the Mohawk and Upper Hudson at Waterford, the Hudson, herein termed Lower Hudson, has as tributaries such streams as Catskill Creek, Esopus Creek, and Rondout Creek, the latter two of which constitute major sources of water supply for the City of New York. Many others which have been investigated for possible development from time to time, such as Roeliff Jansen Kill, Wappinger Creek, and Fishkill Creek, are also tributaries.

The water of the Hudson is relatively soft, is usually of very low turbidity, and, when taken upstream from Poughkeepsie to avoid salt water, is a good potential source for municipal water supply.

The run-off in the Hudson River basin is very rapid because of the mountainous character of the area and its rocky slopes. From 50 to 55 percent of all precipitation is available as run-off.

**Hudson River Flow**—The flow in the Hudson River above Poughkeepsie naturally varies with the seasons of the year. The long-time average flow



is approximately 17,600 cfs. The lowest flow in the past 20 years is estimated at 2,930 cfs., the equivalent of approximately 1,900 mgd. The flow exceeds 6,000 cfs. 86 percent of the time. Since the upland sources, now developed or under construction, can supply in the driest year to be expected once in a century all but approximately 300 mgd. of the water requirements of the City of New York until the year 2000, the great potential capacity of the Hudson River for use as an auxiliary supply is apparent.

**Operation of Sacandaga Reservoir**—As now operated, the primary function of Sacandaga Reservoir is the storage of flood waters and their release during the summer and winter months. The reservoir stores approximately 225 billion gallons, about seven times the storage in Kensico Reservoir and double that proposed for Cannonsville. This volume is equal to 750 days' use at 300 mgd., which is the rate of withdrawal from the Hudson estimated as necessary sometime around the year 2000. The impounding and release of flood water at Sacandaga is designed to operate as required by the public welfare, including public health and safety.

During July, August, September, and October, 1949, the releases from the Sacandaga Reservoir averaged approximately 1,950 cfs. for six days of the week, equivalent to a uniform flow of approximately 1,650 cfs. or 1,100 mgd. If at this time New York City had been taking 300 mgd. from the Hudson above Poughkeepsie, the release from Sacandaga could have been stepped up by this amount and the amount released in the four-month period would have amounted to only 15 percent of the total Sacandaga storage. The withdrawal by New York with this

release would have left the flow and quality at Poughkeepsie just as it was in 1949. The operation of the Sacandaga Reservoir is obviously an important factor to be considered as it is when related to the low flows of the Hudson River.

**Quality of Hudson River Water**—The characteristics of water most significant to the domestic consumer are not necessarily those of greatest importance to the industrial user. Information needed to supply the answers to many of the questions regarding the quality of Hudson River water is scattered and incomplete. However, sufficient information is available to supply answers to many of these questions.

Poughkeepsie, N. Y., has used river water, with filtration and chlorination, for over 70 years, and its record in the last quarter century compares favorably with New York City's in freedom from waterborne disease. Raw water coliform content taken from above Poughkeepsie falls well within the requirements of Group III of the United States Public Health Service which state that such water must receive rapid sand filtration and continuous post chlorination. Such treatment is necessary in many of the surface waters of the United States which have been used widely and successfully over the last 30 years. Many cities — such as St. Louis; Cincinnati; Washington, D. C.; Chicago; and Milwaukee—use the same character of water and purification processes which result in water which compares more than favorably with that now obtained from the upland sources for New York City.

Raw water constituents, such as phenols, which on occasion might produce taste and odors, could be reduced or eliminated at upstream offending



plants. Taste and odor of biological origin would pose no new practices or difficulties which have not already confronted New York City for years in the treatment of existing upland sources.

Salt water in tidal streams frequently extends many miles upstream from the river mouth. The Hudson River is no exception, for salt water affects its chloride content as far upstream as Chelsea. This is the location where the Delaware Aqueduct crosses under the Hudson and where the emergency supply development has recently been built by the Board of Water Supply. The City of New York recently made chlorides determinations of the Hudson River water at this site at various depths and locations. Its consultant, Frank A. Marston, in his Report of December 16, 1949, came to the conclusion that even as far downstream as Chelsea the mixture of 100 mgd. of Hudson River water with the Delaware water and its further mixture with the Catskill water in West Branch and Kensico Reservoirs would "result in a safe and reasonably satisfactory water."

In the Hudson River projects considered herein by the Panel, the proposed intake location is upstream from Poughkeepsie about halfway to Hyde Park, the location previously considered as satisfactory in the Burr-Hering-Freeman Report. Here the chloride content is not significant.

Incomplete as the analytical data are, they all confirm the fact that water might be taken from the main Hudson River above Poughkeepsie, which would furnish a product as good or better than that now supplied New York City.

**Filtration**—Raw Hudson water at the intake location proposed below by the Panel can be readily purified in a properly designed rapid sand filtration

plant. This is as would be expected, for the immense storage volume in the River itself between Albany and Poughkeepsie provides a detention period of from a few days at high flows to two or three months at low flows. Bacterial mortality due to storage and time occurs in the Hudson River as it does in the reservoirs on the Delaware, Catskill, or Croton. Studies made years ago by Dr. Earle B. Phelps for the New York State Department of Health amply confirm these conclusions.

The Panel believes that an adequately designed "conventional" filtration plant will consistently produce a superior quality of water from the Hudson River without a preliminary artificial long storage of the raw water.

**The Beck Plan**—During the winter months of 1949-50, when the seriousness of the water shortage became a matter of public concern, Lawrence T. Beck, a practicing civil engineer and a trustee of the Citizens Budget Commission, advocated the development of the Hudson River as the next step in augmenting New York City's water supply.

The Panel agrees with Mr. Beck and his associates as to the general feasibility of utilizing the Hudson River as a source of water supply. However, it feels that the construction of a barrage dam at or near Chelsea, as outlined in the Beck Plan, is unnecessary. Its construction would create an obstruction to navigation, and might adversely affect property values upstream. Equal or better water quality can be attained by locating the intake upstream between Poughkeepsie and Hyde Park. This would cost much less than the figure estimated for the construction of the barrage across the Hudson. For these reasons, the Panel is unable to endorse the Beck Plan as such.



## THE PANEL'S PROPOSAL

The Panel proposes an intake in the Hudson River north of Poughkeepsie and near Hyde Park. The water would be pumped from the intake through a conduit 18 miles long to a filter plant adjacent to Shaft No. 6 of the Delaware Aqueduct. After filtration, the treated, chemically adjusted and pure water would be pumped into the aqueduct and delivered to West Branch or Kensico Reservoir.

The capital cost of the Panel's Hudson project is less than 30 percent of the Cannonsville project, and the average annual cost is approximately one-half. Over a 40-year period, it is estimated that the Panel's plan will cost \$117,880,000 less than the Cannonsville project.

The Panel has devised two plans for utilization of Hudson River water. Panel Plan A and Panel Plan B differ in that Panel Plan B contemplates a small additional diversion from the Delaware River developments now under construction. Both Panel Plans would start pumping water from the Hudson when the existing reservoirs are reduced to 80 percent of capacity.

A comparison of cost estimates of present and proposed projects for New York City water supply can be had from the table on the following page.

Panel Plans A and B require substantially less capital and annual costs, and involve far less construction time than any other comparable project. Plan A, which can later be expanded to Plan B, *also has the advantage of no interstate complications*, which are inherent in all projects involving the use of upland sources.

From a security standpoint, a triple value would result in the case of radioactive or biological contamination if the Hudson were used with filtration. The normal flow of the river would cleanse it in a matter of days. Filtration of low-level radioactive water would afford a second important protection. In addition, all the water could be bypassed if necessary, in case of extreme radioactive contamination.

Therefore, from the basis of security as well as of cost and quality of water delivered, the pumped and filtered auxiliary Hudson supply appears to have a very real advantage over all others considered.

## FILTRATION OF ALL SURFACE SUPPLIES

With the greater appreciation of the role of bacteria in waterborne diseases and the limitations of disinfection alone as a barrier between chance pollution of the water supply and the consumer, there has been a more general recognition that all surface water supplies are by their very nature subject to pollution and that every safeguard including filtration and chlorination should be provided to protect the water users.

Virtually every engineering report made during the past 50 years by consulting engineers independently of municipal water agencies has urged filtration of all surface water supplies for New York City.

From Kensico Reservoir, all water from the Catskill, Delaware, and Hudson sources may be delivered to a new filtration plant at the Eastview site already owned by the City. The cost of the combined project, that is, the develop-



SAFE  
DELIVERABLE  
YIELD-mgd.

ESTIMATED  
CONSTRUCTION  
COSTS

CAPITAL  
COST  
per mgd.

ANNUAL COST DURING AMORTIZATION  
PERIOD, OR UNTIL THE YEAR 2000  
Items  
Summation

AVERAGE COST TO YEAR 2000  
PER MIL. GAL. OF INCREASED  
AVAILABLE SAFE SUPPLY

PROJECT

UPLAND SOURCES

Incodel 1st Stage	240	\$214,000,000	\$893,000	\$ 9,350,000	\$ 9,350,000	\$106
Cannonsville BWS	345	140,000,000	405,000	5,600,000 <sup>(1)</sup>	6,022,000	48
				422,000 <sup>(2)</sup>		
Cannonsville Panel 2 A	98	30,000,000	306,000	1,200,000 <sup>(1)</sup>	1,320,000	37
				120,000 <sup>(2)</sup>		
Cannonsville Panel 2 A + B	183	67,000,000	366,000	2,680,000 <sup>(1)</sup>	2,904,000	44
				224,000 <sup>(2)</sup>		
Cannonsville Panel 3 A	209	85,000,000	407,000	3,400,000 <sup>(1)</sup>	3,656,000	48
				256,000 <sup>(2)</sup>		
Cannonsville Panel 3 B	248	113,000,000	455,000	4,520,000 <sup>(1)</sup>	4,823,000	53
				303,000		

HUDSON RIVER SOURCES

Beck Plan	500	242,830,000	486,000	13,897,000 <sup>(4)</sup>	13,897,000	76
Panel Plan A	325	39,185,000	120,000	3,075,000 <sup>(3)</sup>	3,075,000 <sup>(3)</sup>	26
Panel Plan B	325	39,185,000	120,000	2,850,000 <sup>(3)</sup>	2,850,000 <sup>(3)</sup>	24

EXISTING AND AUTHORIZED SOURCES

Catskill	555	246,624,000 <sup>(5)</sup>	445,000	9,865,000 <sup>(1)</sup>	10,545,000	52
				680,000 <sup>(2)</sup>		
Rondout-Delaware						
Stages 1 and 2	560	417,700,000 <sup>(6)</sup>	747,000	16,708,000 <sup>(1)</sup>	17,393,000	85
				685,000 <sup>(2)</sup>		

PROPOSED BOARD OF WATER SUPPLY COMPLETE DELAWARE DEVELOPMENT

Rondout-Delaware						
Stages 1, 2, and 3	905	557,700,000 <sup>(7)</sup>	616,000	22,308,000 <sup>(1)</sup>	23,414,000	71
				1,106,000 <sup>(2)</sup>		

<sup>(1)</sup> Annual payment with interest of 2½ percent, amortization in 40 years.

<sup>(2)</sup> Operation at \$3.35 per mil, gal.

<sup>(3)</sup> Panel estimates, arrange cumulative annual cost for 40 years.

<sup>(4)</sup> From Beck Plan.

<sup>(5)</sup> As reported for fiscal year 1948-49.

<sup>(6)</sup> Board of Water Supply—Acc. 68652—June 15, 1950.

<sup>(7)</sup> Stages 1 and 2, plus \$140,000,000 for Cannonsville.



ment of a 325 mgd. new auxiliary supply from the Hudson River and the construction of a filter plant to treat all water from surface sources except the Croton, would be \$89,658,000. This is about \$50,000,000 less than the cost of the Board of Water Supply Cannonsville project without any filtration of any source.

The Croton supply is more in need of filtration than water from any other upland source. The method of determining just how this should be done should be based upon an economic study not within the purview of the Panel's Report. However, the cost involved for one possible combination of auxiliary

pumped supply from the Hudson and filtration of all surface sources is estimated to be \$109,658,000, or some \$30,000,000 less than the cost of the Board of Water Supply Cannonsville project without any filtration.

Therefore, regardless of consideration as to additional water supply, the Panel recommends that the matter of improving the protection of all supplies through the construction and operation of a modern filtration plant be given immediate consideration, and that preliminary plans and estimates of cost of such a project be provided within the next few years.

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## SECTION 2

# ACTION OF THE MAYOR'S COMMITTEE

*There was division in the Committee with respect to water sources, reflecting differences within the Subcommittee on Water itself. The Subcommittee transmitted, in addition to its own Report, a Minority Statement by George F. Mand, concurred in by Lawrence E. Gerosa. The views of the Minority Statement were substantially upheld by the Mayor's Committee in its action as given below. To clarify the final record, the Report of the Subcommittee and the Subcommittee Minority Statement are both given.*

(1) We recommend that there be established without delay a new major division in the Department of Water Supply, Gas and Electricity with an adequate appropriation for the detection, prevention, and early stoppage of leakage and waste. After a five-year period of intensive activity, during which the distribution system would be put in good working order, the division would be reduced to perform current

functions only. The cost of the water saved will pay for this project many times over.

(2) We recommend that the City adopt the policy of metering all supplies. This will require the establishment of a special unit to work out the engineering, financial, and administrative problems involved, and to prepare the necessary local laws and orders.

(3) We recommend that the City of



New York stay out of the Incodel project as it is now planned.

(4) We recommend that the Board of Water Supply immediately engage a staff of independent consultants and engineers to undertake an impartial study and analysis of the Hudson River as a major water supply source other than on an emergency basis. These consultants and engineers should be selected in agreement with the Mayor's Com-

mittee on Management Survey, and should complete their study within a period of not more than two years.

(5) We recommend that the Board of Water Supply undertake the making of preliminary plans and estimates for a modern filtration and treatment plant designed to process the total water supply of the City.

(6) We recommend that the Cannonsville project be carried forward by New York City.

## STATEMENT OF THE SUBCOMMITTEE

(1) We recommend that there be established without delay a new major division in the Department of Water Supply, Gas and Electricity with an adequate appropriation for the detection, prevention, and early stoppage of leakage and waste. After a five-year period of intensive activity, during which the distribution system would be put in good working order, the division would be reduced to perform current functions only. The cost of the water saved will pay for this project many times over.

(2) We recommend that the City adopt the policy of metering all supplies. This will require the establishment of a special unit to work out the engineering, financial, and administrative problems involved, and to prepare the necessary ordinances and orders. Other large cities have shifted over from unmetered to metered service, and from private meters to City-owned and maintained meters. While this undertaking is complex, we see no reason why the City of New York cannot proceed without delay. The changeover can be made to pay for itself, and will at the

same time greatly reduce the wasteful use of water.

(3) We recommend that the City of New York stay out of the Incodel project as it is now planned. Incodel is a bad business proposition for this City.

(4) We recommend that the Board of Water Supply immediately engage a staff of independent consultants and engineers to undertake an impartial study and analysis of the Hudson River as a major water supply source and to review technically the suggestions of the Panel on other resource possibilities. This study would determine where the water should be taken, how it should be treated and where it should be added to the City supplies, what the costs would be, and how the various engineering problems may best be solved. These consultants and engineers should be selected in agreement with the Mayor's Committee on Management Survey.

(5) Without prejudice to the Cannonsville project, which has already been given just the kind of study we now urge for the Hudson, we recommend that any further action on new sources be postponed until wastage has been



brought under reasonable control, the extension of metering has been undertaken, and the adequate and detailed study of the Hudson as a possible source has been completed.

(6) We recommend that the Board of Water Supply undertake the making of preliminary plans and estimates for a modern filtration and treatment plant designed to process the total water supply of the City.

(7) In conclusion, we insist that the foregoing steps must be taken immediately and vigorously, so that the necessary policy and engineering decisions

can be reached not later than 1955. It is the purpose of these recommendations of the Mayor's Committee on Management Survey to broaden the approach to a solution of our water supply problems, to increase public understanding of the situation, and to arrive at a conclusion which will not only carry conclusive weight with the United States Supreme Court and the State Water Power and Control Commission, but will guarantee to the people of New York City a water supply of the finest quality, in ample quantity, and at the lowest possible cost for so fine a service.

### SUBCOMMITTEE MINORITY STATEMENT

At the meeting held on November 26, 1951, the Subcommittee on Water Supply by unanimous vote resolved:

"That the Committee recommend that the City adhere to the policy adopted by the Board of Estimate to develop the Cannonsville project."

The reasoning prevailing at that time was set forth in draft of letter prepared for the main Committee and on question of quality read as follows:

"We are not convinced that even the best water treatment technically available will satisfy the exacting requirements as to taste, quality and other imponderable and psychological aspects to which the public of this City is accustomed. Those who live here, and those who visit here, like our upland water. This is not an advantage enjoyed in other large cities which depend on heavily treated river or lake water."

Thereafter upon request of the main Committee both our consultants and members of the Board of Water Supply more fully outlined their respective viewpoints on quality and other aspects

of the much involved subject. In addition, the Board of Water Supply stands firmly on this recent statement to the Subcommittee. I quote:

"We are submitting to you here-with excerpts from actual findings made by the Water Power and Control Commission, within the last two years:

"—In addition, it has been shown that raw water from the Hudson River is far inferior in quality to that from the West Branch of the Delaware River and even if it were afforded complete and elaborate treatment, Hudson River water would still be of questionable physical character. The best sanitary engineering practice, and one adopted by the Special Master and the Court in *New Jersey v New York*, 283, U.S. 336, is to obtain the purest water possible for a municipal supply and to make this water better and not to obtain less desirable water and render it acceptable by treatment and purification."

Reflecting on all of the foregoing, I find myself unable to digress from action taken at meeting held November 26, 1951. With much deference to the



ability and sincerity of our consultants, they do not, and perhaps should not, deal with certain realities which is the job of our lay Committee. As to that I grant public opinion is reconciled to use of Hudson River water under emergency conditions, but respected opinions to the contrary, I am convinced that to advance the Hudson as a regular source of supply—even of limited scope and after being subjected to the safeguards under discussion—will engender dire psychological reaction. Why create this condition, and to my mind be still taking serious chances with public health, when more upland sources are still available? Can we deny that if it were not for the much disputed dollar savings involved in the discussion, there would be no reason to consider the Hudson source at this time? As to the so-called favorable costs involving the Hudson project, the Board of Water Supply still asserts that Cannonsville will be cheaper in the long run. I think much can be said for any project that will not require a yearly budget item to insure its operation. All in all, on score of quality versus questionable savings and public peace of mind, I maintain my position in support of the Board of Water Supply.

In my judgment, the pros and cons of quality have overshadowed the paramount consideration as to how far New York City can gamble on the State of New York ever granting permission to use the Hudson for other than emergency purposes. The attitude of the State is outlined in the following from the Board of Water Supply, wherein it is pointed out the State has reserved the right to close down the existing pumping station. I quote the Board:

“When the City sought the permission of the Water Power and Control

Commission, to establish the emergency pumping plant at Chelsea, the Commission, in one of its findings said:

‘If this application were made by the City for approval of the use of the Hudson River, as a permanent source of supply, it is very doubtful, the Commission would approve of it even with the treatment proposed. Any approval contained herein is intended to permit the City to use this water only during the present emergency or until final development of the Delaware project as now being constructed has been completed. *Upon completion of that project and unless further approval of this Commission is obtained, the City must abandon this pumping station and remove therefrom any equipment which might make its further use as a source of supply possible.*’

“In another finding the Commission said:

‘Reference has been made by the objectors to the possible further improvement in the condition of the Hudson River by the activities of the recently created State Water Pollution Board. The Commission can only consider conditions as they now exist, and for the present must reiterate its former findings . . . *that the Hudson River below the Troy dam, generally, is not at the present time suitable from a sanitary point of view as a permanent source of public water supply.*’

It is evident no advance commitment could be obtained as to the use of the Hudson. If New York City fails to move for more upland water and marks time until the need will sustain a formal application for use of the Hudson, where will the City be if the State rejects the request? In light of the opposition and the restrictions attending the present emergency grant, should we invite the conditions which would result from such a determination of the broad question of future sources? We must realize Up-



state communities, rightly or wrongly, will oppose New York City taking water from the Hudson. We cannot be blind to the fact that the legislature is responsive to Upstate as against City demands as has been evidenced time and again. To those who would argue such an emergency would arise as to force the State to make the grant, I say with upland sources still to be had, it would be folly to invite such a situation! It would be just another trip to Albany, hat in hand! When the time comes, with no other alternative, the situation will be different, but I cannot subscribe to entering into such uncertainties in light of that which is before the Committee at this time.

We do have a duty to weigh every word written or uttered by our consultants, who after all are our advisors, but I do not feel we can lightly reject the following statement by a member of the Board of Water Supply:

"I know that the Subcommittee and the Mayor's Committee are as

anxious to protect the rights and position of the City as I am, and therefore they will do nothing which will serve to prejudice our position in connection with the Supreme Court application, which is a key move in our essential plans."

Reasoning as and for the average citizen and not without due regard for every factor, I sustain my previous vote and action as to the future source of supply as I do with respect to other matters adopted at the Subcommittee meeting of November 26, 1951, namely:

(a) That greater efforts be exercised to detect and eliminate leaks.

(b) That metering be increased.

(c) That filtration plans be developed.

(d) That the Cannonsville project be carried forward by New York City without any involvement in the In-codel project.

/S/GEORGE F. MAND

(concurring in by)

LAWRENCE E. GEROSA

## STATEMENT

The statement of our associates, Messrs. Mand and Gerosa, raises eight points about the advisability of the use of the Hudson River as a major source of supply that require answer.

(1) The Subcommittee minority takes the position that not even the best treatment of the Upper Hudson River water will satisfy the public, which is accustomed to upland water. Our distinguished consultants find, however, that water taken from the Hudson above Poughkeepsie "would furnish a product as good or better than that supplied New York City." Even if there were a detectable taste difference, which we

doubt, the Hudson water would be diluted in relatively small quantities with the present supply, so that the most exacting critic could not distinguish between the two.

(2) The minority seems to stress the argument that the Upper Hudson River's raw product is inferior to the raw Delaware water. But we are concerned with what is delivered to the consumer. Both sources are treated water. That is what we now drink and will continue to drink. What should be compared is what kind of water *will* be delivered after treatment, not what kind of water might be delivered if there were *no* treatment.



(3) Much is made of the supposed adverse "psychological" public reaction to Upper Hudson River water. The people, we are told, will not reason but will be so prejudiced against Upper Hudson water that some "dire psychological reaction" will result. We share no such fears. We think the public understands that none of us is talking about the heavily polluted Lower Hudson River. We think the public knows its geography well enough to know where Poughkeepsie is, where Hyde Park is, and what we mean when we say *that* is where the Upper Hudson should be tapped. We see no signs of mass hysteria and we are not afraid of public judgment.

(4) Doubt is cast by the minority statement on the question of cost. We just do not agree. We think the facts are beyond dispute that, on the question of cost, the Upper Hudson has all the obvious and unanswerable advantages. We are certainly eager to have more expert and more public judgment on our interpretation of cost facts as contrasted with those of the minority, and both sides have joined in the recommendation for an impartial study.

(5) Objection is offered to the fact that an annual budget item would be necessary if the Upper Hudson waters were used, to pay for the pumping. But the Cannonsville alternative also requires an annual budget item for maintenance, local school taxes, and other operating costs, plus an additional large annual sum for debt service. We prefer a budget item included under departmental operations where it is subject to challenge and must be justified, as opposed to lumping a cost under debt service for which appropriations are largely *pro forma*.

(6) The assumption is made that the State of New York will not consent to any Hudson River project. We believe that the State will be influenced by facts, by public welfare, by public need, by public good. Indeed, the whole story has never before been put together and certainly has never been placed before State authorities. We do not think the State will stand in the way of public welfare.

(7) The prediction is also made that upstate communities will oppose an effort to tap the Upper Hudson. This may be so. But it may also be so that, upon presentation of the whole story, much of the opposition, if not all of it, may disappear. We believe that New York City has an eloquent, convincing, moving case in its favor so far as the Upper Hudson is concerned. We believe that it can be demonstrated that no interests of upstate communities would be injured by New York's use of the Hudson. And we believe that the fear that someone may object, before the facts have been assembled, before the effort has been made, is unwarranted. The progress of mankind has not been achieved through surrender out of fear of opposition.

(8) Some feel that any report favorable to the Upper Hudson project might be prejudicial to the City's case before the United States Supreme Court, where efforts are being made to obtain permission to tap more upland waters for the Cannonsville project. This overlooks the fact that the City's petition is being opposed by other states which will undoubtedly make use of the consultants' Report, regardless of what this Committee recommends. The Supreme Court is entitled, in any event, to the fullest consideration of the facts



and the best judgment of the Mayor's Committee.

We renew our position in committee that the Upper Hudson River sources should be examined more closely, that all facts should be made public, and that no further extravagant commitments be made in the Cannonsville project until the Upper Hudson problem has been adequately studied and settled.

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/s/ CHARLOTTE CARR  
SAMUEL DAVIS  
ROBERT W. DOWLING  
PETER GRIMM  
GEORGE H. HALLETT, JR.  
JOHN S. LINEN  
THOMAS JEFFERSON MILEY  
RITA H. MORRIS (MRS. RALPH B.)  
DELMONT K. PFEFFER



## CHAPTER XIII

# EDUCATION

### EDITORIAL NOTE

The studies of the Board of Education and the Board of Higher Education covered all phases of the organization and operation of the City's educational systems, exclusive of matters concerned with educational program content and pedagogical methods. In view of the tremendous size of the organization and the facilities required to meet New York's educational needs, this survey was one of the largest administrative and operating analyses undertaken by the Mayor's Committee, and the final Report of the consultants, George D. Strayer and Louis E. Yavner, comprised two volumes, totaling 1,186 pages, in addition to an Interim Report of 317 pages.

The Interim Report, entitled "Some Aspects of the Division of Housing and Related Administrative Problems," was separately issued some six months prior to completion of the entire study, because of the emergency situation found to exist in connection with the administration of the Board of Education's school building, modernization, and repair program, as well as in certain related areas of top business administration. While the highlights of the findings in this Report are included in the two-volume final Report, a reading of the Interim Report is required in order to obtain the complete picture. Accordingly, this Interim Report is digested separately as Section 1 of this chapter.

Section 2 presents the digest of the main Report, "Admin-



istrative Management of the School System of New York City.” (The separate 51-page volume submitted by the consultants, “Administrative Management of the School System of New York City, a View in Perspective and a Summary of Recommendations,” does not add substantive material and is therefore not separately digested.)

The pros and cons of fiscal independence for the City’s school system, giving independent authority to the Board of Education to levy a tax for school operation and borrow for construction, are given prominent public discussion whenever the recurring problems of City finance are under consideration. As indicated in Section 2, the Strayer-Yavner Report takes a position in favor of independence. However, the consultants in charge of the finance project, who analyzed the problem from the point of view of fiscal administration, City-wide, came up with an opposite point of view, presented in a separate monograph published in its entirety as an Appendix to Chapter XIII of their general summary volume. Since the Mayor’s Committee, in its action as given in Section 4 of this chapter, concurs with its finance experts, rejecting the recommendation of the education Report on this matter, an extended digest of the monograph referred to is given in Section 3.

Coupled with the concept of fiscal independence is that of an elected Board of Education. Here again it is to be noted that the action of the Committee differs from the recommendations of the education survey. (The Committee adheres to a Board appointed by the Mayor, as at present, as well as to the present method of appointment of local board members by the Borough Presidents.)

The Committee also rejects the consultants’ recommendation regarding the establishment of a single centralized research division, a Division of Special Services, a Division of Instruction, and the transfer of health examinations from the Health Department to the schools.

The Committee takes no position on the location of specific schools, leaving that to be worked out when the proper organization is set up. Numerous other recommendations of the consultants are referred to the Board of Education for policy determination or to the Superintendent of Schools for execution. Matters regarding the incorporation of the City’s colleges into



the State University and the establishment of community colleges and institutes are left for further exploration. The Committee takes no position on the pedagogical question of optimum classroom size and on questions pertaining to the Board of Examiners. The chapter on the Board of Examiners appearing in the Report is not digested in detail in Section 1 of this chapter, not only because the administrative decisions in this area are largely dominated by pedagogical considerations, but also because further conferences between the consultants, the Board of Examiners, and the Subcommittee on Education developed several points on which the consultants agreed that their original presentation would have to be modified. However, the Committee did make a recommendation on the subject (See Section 4, paragraph 22).

During the conduct of the study, which extended over 13 months, the consultants and their staffs were in a position to develop an especially close working relationship with the Superintendent of Schools and his staffs. As a result, many of the recommendations were mutually arrived at, and moves regarding certain important ones—notably in administrative reorganization of school building and school operation and maintenance—were promptly authorized by the Board of Education.

Before arriving at its final action, the Mayor's Committee secured the reaction of leaders in education at an all-day conference held in January, 1952, under the co-sponsorship of eight leading civic organizations. Delegates representing 57 groups interested in public education attended, as well as officials and staff members of the Board of Education and Board of Higher Education, and the consultants and their staffs. The conference discussion confirmed the Mayor's Committee in its action with respect to the controversial issues of fiscal independence and an elected Board. Proceedings of the conference were published separately in May, 1952, under the title "Taking Stock of School Management."

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## SECTION 1

# HOUSING AND RELATED ADMINISTRATIVE PROBLEMS

BY

GEORGE D. STRAYER AND LOUIS E. YAVNER

## School Buildings

Millions of dollars are wasted in the New York City school system through underutilization of school facilities. The cure for this situation is in fixing responsibility, reorganization work, defining basic concepts and statistical terms, new formulas for computing school size, spreading out the load, more equal utilization, and specific attention to the community public relations problems involved.

Three of the major activities of the Division of Housing and Business Administration of the Board of Education are woefully inadequate: utilization of existing school buildings, control of the course of the building program, and maintenance of the school plant.

The division's failure is partly the result of a series of events that began in May, 1938, when the Board of Education abolished the Bureau of Construction and Maintenance and transferred its functions to two new bureaus: a Bureau of Plant Operation and Maintenance, and a Bureau of Construction.

The intent of the Board was excel-

lent; the consequences have not been good. One partial and patchwork reorganization has followed another. The Division of Housing was set up to co-ordinate the two bureaus, but immediately tinkering began, and the new divisions were sheared away a bit at a time. The result has been the present confusion and futility.

Six proposed schools\* at a cost of \$12,461,700 would not be needed at the locations planned if existing schools were better utilized. It is recommended that these be abandoned and the funds for them be made available for other needed school projects. Three of these six schools,\*\* already provided for in the 1951 capital budget, have an estimated cost of \$5,995,000, of which \$2,990,000 has been allocated.\*\*\*

\*J. H. S. 120, Bx.; P. S. 27 Add., Bklyn.; P. S. 156, Man.; P. S. 199, Queens; P. S. 185, Man.; P. S. 117, Man.

\*\*J. H. S. 120; P. S. 27 Add.; P. S. 199.

Digest from "Some Aspects of the Division of Housing and Related Administrative Problems" (Interim Report on the Administrative Management of the School System of the City of New York), by George D. Strayer and Louis E. Yavner, April 16, 1951.

\*\*\*ED. NOTE (July 1, 1952): Since submission of the Strayer-Yavner Report, the Board of Education and the Board of Estimate reconsidered the six schools in question and decided to go ahead with three of them, namely, J. H. S. 120, P. S. 27, and P. S. 199. P. S. 156 as originally proposed was abandoned, and a new project with the same number was approved for construction. This latter, despite the same number, has no relation to the one abandoned. Regarding P. S. 185 and P. S. 117, the Board of Education and the Board of Estimate will make a further study before acquiring sites and authorizing construction.



In presenting a school construction program, those schools definitely planned and authorized in the capital budget, and those included only to make possible the subsequent allocation of engineering and/or site acquisition funds, should not be added as a single item, but should be totaled separately for clarity.

**Programing**—No adequate system of management direction or controls for the school building program is provided, particularly in meeting the emergency of expanding enrollment in the lower grades resulting from the phenomenal increase in the birth rate during the war and postwar years. The solution is the creation of a central organizational unit with information, records, and controls, so that there may be a single responsibility to get action, a single set of accepted facts, and a single point of control.

### **Maintenance of Buildings**

The City does not spend enough to keep up the property of the school system. Administrative relationships are conflicting and confused; management of the operation is chaotic; and adequate personnel is desperately needed.

A maintenance payroll of \$1.8 million is sufficient to administer a maintenance program costing about \$10 million. Yet, though the Bureau spent less than half as much for maintenance in 1950-1951 as it did in 1948-1949, its payroll increased some 23 percent.

The Bureau of Plant Operation and Maintenance should be completely reorganized and its functions and procedures clarified; modernization work should be transferred to the Bureau of Construction; adequate personnel should be provided; annual provision for maintenance should be placed on a businesslike basis; and inspectional serv-

ice should be reconstituted.

Fifteen major steps should be taken to reorganize the maintenance operation of the school system:

(1) *Complete Top Reorganization*—Establishment of an Office of Housing has been proposed. The Bureau of Plant Operation and Maintenance as such should be abolished and its functions divided. Some of these functions will be grouped together in a new Division of Plant Operation and Maintenance, which will become part of the Office of Housing. The Division of Plant Operation and Maintenance should have charge of the custodial service which operates the school plant, and should be responsible for emergency work and most small repairs costing under \$1,000 each. Where emergency repairs require special material, equipment or personnel, the division would arrange for such repairs through outside contractors by the usual forms of orders or contracts.

(2) *Establish a New Approach to Contract Repair Work*—In the Office of Housing there should be a new unit called the Division of Construction and Contract Repairs. Within this unit should be drawn together the two engineering departments which now operate separately in the Bureau of Construction and the Bureau of Plant Operation and Maintenance.

(3) *Assign Modernization Work to Proper Place*—Modernization work should be transferred to the new Division of Construction and Contract Repairs.

(4) *Enlarge the Shop Capacity*—Present shop capacity should be increased by doubling the productive employees so that they can handle a much larger proportion of all maintenance work.

(5) *Modernize Repair Shop Methods*—This is a necessary step to increase the efficiency and total output of the present shops.

(6) *Improve Specifications Through Division of Work*—The present confusion in the writing of



specifications for repair work can be eliminated by proper assignment and division of work among the technical units.

(7) *Eliminate Paper Work on Repair Contracts*—The school system still measures repair job content by the 1938 contract dollar. Immediate action should be taken to raise from \$200 to \$500 the present limit on all oral orders. Jobs covered by "soft" specifications should be increased from \$1,000 to \$2,500. Work estimated to cost over \$2,500 should now be deemed contract work and the present level of \$1,000 should be abandoned.

(8) *Give Authority, Fix Responsibility, Provide Accountability*—The bureau is held accountable for providing necessary maintenance quickly and properly. Yet, it lacks certain authority, as a result of which delays and sometimes higher costs occur. It is recommended that the Board of Education delegate its authority to order work costing under \$10,000 to the bureau.

(9) *Establish Administrative Controls*—The bureau lacks effective administrative controls. Bluntly stated, the bureau just does not know how much work to expect or how much work it should get. Four simple control systems should be established: (a) work measurements for individuals and for organizational units; (b) computation of reasonably accurate work-load figures based upon these work measurement data; (c) performance controls to indicate status of work in progress at all times as related to schedules; and (d) reasonably accurate comparison of repair shop performance with contract prices for comparable work.

(10) *Improve Personnel Policies*—The high turnover of technical help, the lack of skilled personnel, and dissatisfaction among employees are basic causes of the personnel difficulties. Six lines of action are necessary: (a) establish an extensive in-service training program; (b) revise salary schedules; (c) reorganize, con-

solidate, and re-evaluate administrative and supervisory jobs; (d) recruit and develop a program for keeping qualified personnel; (e) assign detail work to subordinates; and (f) relate personnel requirements to work load on a factual basis.

(11) *Begin Preventive Maintenance*—The school system has been unable to practice preventive maintenance because it has lacked funds.

(12) *Employ a Special Expediter*—The Board of Education should establish a unit to concern itself exclusively with expediting delivery of critical materials or procurement of special services.

(13) *Require that Custodians Produce more Maintenance Work*—The potential aggregate of savings possible by diligent effort of custodians, day in and day out, would run into scores of thousands of dollars.

(14) *Inspectors Should Inspect*—Inspectors now spend a disproportionate amount of time on clerical detail, telephone complaints, and other desk work. The bureau should immediately establish form letters and effective control routines.

(15) *Establish a Continuing Materials Study*—In the present state of the national economy and with constant changes taking place in the fabrication of materials, it is essential that a continuing study be maintained of all materials appearing on the market, in order to take advantage of superior and cheaper substitute materials and methods.

## Reorganization

Three posts of Deputy Superintendent of Schools should be created immediately: one for Housing, one for Education, and one for Business Administration. They should be appointed by the Superintendent of Schools, on approval of the Board of Education, and should have qualifications of administrative experience and competence as well as technical knowledge and experience appropriate to their assignments.



Subfunctions of Housing and Buildings consist of: (1) programing, (2) construction and contract repairs, (3) plant operation and maintenance, and (4) administration with respect to housing and buildings.

Organizational functions under Housing and Buildings should be worked out by the Deputy Superintendent for Housing and Buildings after he has had an opportunity to study the Interim Report and implement its suggestions with his own. Salaries of his organization should be set by the Board of Education in consultation with the Bureau of the Budget.

**Building Program Control**—Even before the top-side reorganization has been

completed the following seven steps should be implemented:

(1) Create a system of centrally controlled progress charts.

(2) Publish the information contained in the progress charts.

(3) Establish scheduled dates for key points in the building program.

(4) Establish authority at the centralized control point to determine causes of delay and fix responsibility to stop delay.

(5) Create control charts within offices, between points.

(6) Prepare manual of procedure on the school building program.

(7) Establish a control unit in the office of the Deputy Superintendent of Housing.

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## SECTION 2

# ADMINISTRATION

BY

GEORGE D. STRAYER AND LOUIS E. YAVNER

The Superintendent of Schools is the head of an organization employing over 45,000 persons. In the 1951-1952 fiscal year, the Board of Education budget totaled about \$300 million, of which \$197 million represented salaries for

teachers and administrative personnel.

Replacement value of present school buildings is well over a billion dollars, and the annual capital-outlay budget is in the neighborhood of \$50 million.

## THE BOARD OF EDUCATION

The Board of Education is the governing body of the New York City school system. It consists of nine mem-

bers appointed by the Mayor for seven years. There must be two each from Manhattan, Brooklyn, Bronx and Queens, and one from Richmond. They serve without compensation, but are provided with offices, secretarial help, and cars.

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Digest from "Administrative Management of the School System of New York City," by George D. Strayer and Louis E. Yavner, October, 1951.



## Functioning of the Board

Briefly stated, the Board's responsibilities include the establishment and maintenance of such schools, classes, libraries, playgrounds, and other agencies for public education and recreation as it shall deem necessary; the provision of free textbooks and the necessary equipment and supplies; the custody and control of school property; the creation and abolishment of positions of employment in the school system; the appointment of a Superintendent of Schools and of such subordinate officers as it shall determine to be necessary, and generally to define their duties; the approval of the content of courses of study and of the selection of textbooks; the determination of regulations for its own proceedings and for the management of schools and activities under its control; the provision of special services and appliances for special types of children; the compensation of employees for injuries or losses sustained in line of duty; and the carrying out of any duty imposed upon it by law or State education authority.

The Board meets every third week except in July and August, when one meeting is held. Each public meeting is preceded by an executive session. The stated meetings are preceded by meetings of standing committees, including (1) Instructional Affairs; (2) Finance and Budget; (3) Buildings and Sites; (4) Retirement; (5) Law; and (6) Civil Defense.

**Misuse of Board's Efforts**—The Superintendent or an associate superintendent attends each meeting of the standing committees. The Auditor is always present at executive sessions. Many items of the standing committees, later considered in executive sessions, are

routine and might better be disposed of by the administrative staff.

Examples of items on the Board calendar that should be treated by the staff are the transfer of supervisors, teachers, and custodians; the transfer of an annex from one school to another; the payment of additional moneys to custodians of certain buildings whose accounts when audited reveal that they have been granted insufficient funds under Board instructions; permission to be absent from duty without loss of pay to attend conventions and conferences; rejection of bids because of the lack of adequate competition; amendment of specifications for equipment; complaints about liquid soap taken from a dispenser in one of the schools; and permission to install bronze lettering in the lobby of a high school, the cost to be paid by previous graduating classes.

If the Superintendent were to present fully the results of the Board's policies and were to propose new policies supported by complete documentation, the Board would have no reason for undertaking administrative tasks as it has been doing. Now, the Board commonly assumes competence in the field which should be reserved for the professional staff. No greater improvement can be made in the administration of schools in New York City than to differentiate clearly between the responsibility of the Board of Education and that of the professional staff.

By statute, the Board should operate independently. However, it is common knowledge that Board members consult the Mayor on some appointments to the staff. In every case, appointments should be recommended by the Superintendent and approved by the Board.

The Budget Director and members of the Board of Estimate exercise such



close fiscal control over the Board of Education that they, instead of the Board of Education, determine educational policy. The only remedy is fiscal independence.

Need is apparent for a reorganization of the administrative staff of the school system, particularly the top personnel responsible for the administration of the school housing program, the business affairs necessary for the conduct of the schools, and the co-ordination of the activities of the professional staff of the school system.

### **The Administrative Staff**

The Board of Education elects a Superintendent of Schools and, upon his nomination, elects eight associate superintendents, assistant superintendents, directors, principals and other administrative and supervisory personnel. A Secretary to the Board and an Auditor, both elected by the Board, work under the general supervision of the Superintendent. The Superintendent must choose Civil Service personnel from eligible lists established by the Municipal Civil Service Commission.

#### **Specific Powers of the Superintendent**

—Specifically, the Superintendent of Schools possesses the following powers: (1) to enforce all provisions of law and all rules and regulations relating to the management of the schools and other educational, social, and recreational activities under the direction of the Board of Education; (2) to recommend the licenses to be established; (3) to require the Board of Examiners to conduct examinations so that eligible lists may be ready for use as soon as vacancies occur; (4) to recommend appointments and dismissal of members of the teaching, administrative, and supervisory staffs; (5) to recommend for permanent appointment those who at

the expiration of the probationary period have been found satisfactory; (6) to have supervision and direction of Board of Education employees; (7) to transfer teachers; and (8) to suspend employees.

By State law there are eight associate superintendents. The Board's By-laws state that each associate superintendent shall be assigned to supervise at least one of the major divisions and no more than two.

In addition to eight divisions, the headquarters organization consists of the Office of the Superintendent, the Office of the Secretary of the Board, the Board of Superintendents and Board of Examiners, and four bureaus: Finance, Administrative and Budgetary Research, Educational Research, and School Lunches.

The present associate superintendent in charge of the Division of Academic High Schools is also Deputy Superintendent and serves as the schools' executive officer in the absence of the Superintendent of Schools. The eight divisions, each headed by an associate superintendent, are:

(1) *Division of Academic High Schools*—In this division are 54 high schools with about 182,000 students registered, and 17 evening high schools with about 27,000 pupils, plus certain summer day and evening high schools. Three assistant superintendents report to the associate superintendent in charge. Each has a geographical assignment and responsibility for specific subject matter City-wide.

(2) *Division of Vocational High Schools*—Under this division's supervision are 31 schools with some 46,000 students, 17 evening trade schools with some 15,000 to 16,000 registration, veterans' training program for several thousand, and part-time education for 10,000 children



under 17 who are working. There is one assistant superintendent.

(3) *Division of Junior High Schools*—This division contains 89 schools with a register of approximately 93,000, and also administers the City's community education program. There are two assistant superintendents.

(4) *Division of Elementary Schools*—In October, 1950, elementary schools had a kindergarten registration of over 54,000; elementary enrollment of 500,000, with over 18,000 in special classes. These were housed in 525 elementary schools and in classes in 44 junior high schools. There are two assistant superintendents.

(5) *Division of Curriculum Development*—This is the newest division. There is one assistant superintendent, with another to be appointed.

(6) *Division of Child Welfare*—This division enforces the Compulsory Education Law and is responsible for treatment of some atypical pupils, special classes for mentally retarded, physically handicapped and emotionally disturbed, and health education and mental hygiene programs. There is one assistant superintendent.

(7) *Division of Personnel and Teacher Training*—There is no assistant superintendent.

(8) *Division of Housing and Business Administration*—Responsible to the associate superintendent in charge of this division are the Superintendent of School Building, Design and Construction, the Superintendent of Plant Operation and Maintenance, the Superintendent of School Supplies, and one assistant superintendent.

*The Bureau of Administrative Research and Budgetary Analysis* compiles statistical data for the preparation of the budget. *The Bureau of Educational Research* is responsible for the standardized test program and instructional research. *The Board of Examiners* conducts examinations for licensed person-

nel. *The Bureau of School Lunches* plans, prepares, and serves school lunches. *The Bureau of Finance* is under the direction of the Auditor, who is responsible to the Superintendent. He prepares all estimates of funds required to be presented to the Board of Estimate. *The Office of the Secretary* serves both the Board of Education and the Superintendent.

**The Board of Superintendents**—This Board has important statutory duties regarding recommending content and implementation of courses. It is also responsible for recommendations regarding appointment of top administrative officers of the Bureau of Attendance, but its powers have been greatly curtailed as a result of a 1942-1943 report, which permitted the Superintendent to become the executive officer.

The headquarters organization has grown without following any basic plan very closely. It is based partly on school levels of elementary, junior high, and senior high, and partly on administrative functions relating to all levels. Subdivisions have been established with little regard for existing ones in the same division. Acting personnel have headed some subdivisions for many years. No consistent nomenclature is followed in organization, there is no basic plan for determining number of personnel, and no consistent way of assigning duties.

There are eight basic functions that should be performed by headquarters staff: regulatory; finance and business; housing; professional supervision; organization; personnel; research; and public information.

**Recommendations**—The Superintendent of Schools should be given complete administrative control. This calls



for reorganization of the administrative staff at the top level.

Three major administrative posts should be set up, each directly responsible to the Superintendent. In addition to the Deputy Superintendent (now existing, but mainly in name rather than in fact) there should be a Deputy Superintendent (Administrator) of Business Affairs and a Deputy Superintendent (Administrator) of Housing.

The Deputy Superintendent of Schools should be relieved of his present responsibility of administering a major division of the school system. His major assignment should be to co-ordinate the work of the associate superintendents of schools in the development of the educational program. He should act for and in the place of the Superintendent as assigned or in the latter's absence or disability.

A Division of Instruction should be created and headed by an associate superintendent responsible for the educational programs for all schools, which are now being offered by four different divisions: elementary, junior high, academic high, and vocational high. The assistant superintendents in the field should be made responsible to the Division of Instruction with the understanding that the other divisions are to have important staff relations with them.

A Division of Curriculum is needed and should be headed by an associate superintendent, responsible for the development of curriculums. It should continue to do through staff relationships most of what it is now doing.

A Division of Organization should be added, headed by an associate superintendent responsible for the organization of all schools. It should be responsible for child accounting, prepare the

reports required for State and Federal appropriations, and review the zoning policies necessary if all buildings are to be used properly.

A Division of Research, headed by an associate superintendent, is needed to consolidate all research in one administrative department.

A Division of Personnel, headed by an associate superintendent, should be given complete responsibility in all personnel matters, including Civil Service personnel. It should pay particular attention to the problem of teacher recruitment.

An advisory council of personnel should be established for the free and open discussion of all types of personnel problems.

A Division of Child Welfare, headed by an associate superintendent, seems necessary to provide the clinical services and special education needed by atypical pupils.

A Division of Special Services, headed by an associate superintendent and responsible for health service, attendance services, and Civil Defense would be advantageous. At present, school doctors, nurses, and dentists are provided by the Department of Health. Appropriations for these should be placed in the school budget. Attendance services currently administered by the present Division of Child Welfare should be assigned to the Division of Special Services.

A Division of Public Information, headed by an associate superintendent, seems advisable.

One of the most important problems confronting the Division of Organization will be the reorganization of high schools. Much space is available in many academic high schools which might be used for vocational instruction.



It is recognized that the proposed reassignment of associate superintendents would require several years. An immediate change in assignment is proposed by combining the Divisions of Academic High Schools, Vocational High Schools, and Junior High Schools under a single associate superintendent.

**The Assistant Superintendents**—The responsibilities of the assistant superintendents in the field are sometimes compared to those of Superintendent of Schools for sizeable cities such as Kansas City. However, it must be remembered that the field superintendents do not develop policy.

The Superintendent has assigned one assistant superintendent (field superintendent) to each of the 23 administrative-supervisory districts. Each assistant has full supervision of elementary and junior high schools, but with authority in vocational high schools limited to rating teachers and to public and community relations, and with no responsibility for academic high schools.

The field superintendent receives directions from seven different divisions. Divided control and direction have deterred efforts to integrate the program of the elementary, junior high, and senior high schools.

Schools in each district should be integrated, with the field superintendent as administrative officer in charge of all schools, and with his responsibilities more clearly defined.

**Lack of Authority**—Too frequently the supervisory personnel assigned to the field superintendents' offices feel responsible only to central headquarters. There is no set pattern as to organization or specialization of personnel supplied the field superintendent.

The relationship between Bureau of

Attendance officers and the field superintendent is very remote in most cases.

**Certain Weaknesses**—The excellence of the service rendered by field superintendents is acknowledged, but the following weaknesses exist nevertheless: no clear line of authority and responsibility between the field superintendent and assigned staff; lack of continuity in curricular philosophy among the four school divisions; too little voice by the field superintendent in selection of personnel. These weaknesses are attributable to the highly centralized school system; much greater leeway is advocated for the field superintendent.

### Principal and Field Superintendent

Standards for a principal's license have necessarily been kept high, because no school system can be any better than the individual principals.

The elementary school principal is the responsible administrative and pedagogical head of the school during the regular school sessions. He reports directly to the field superintendent. The relationship between him and the field superintendent is in most cases good.

As a rule, the supervisory services provided for the individual school by the field superintendent and his staff are efficient, although there are inadequacies in some cases largely due to lack of staffing in the field superintendent's office, limitations in the superintendent's authority, and, in some cases, reluctance on the part of the field superintendent to delegate responsibility to the principal.

Regulatory control of junior high schools in both curriculum and organization comes from central offices, with little room for individual initiative of the principal. The local principal's staff



is so undermanned that supervisory services appear to be inadequate.

Inadequacy of supervision in junior high schools should be corrected either by a system of teacher supervisors (similar to the first assistants in the senior high schools) or by enlarging the field superintendent's staff of specialists. Since departmentalization exists in the junior high program, department chairmen should be recognized with the rank and salary of supervisors. These chairmen should be teachers who are specialists, not only in their fields, but also in the philosophy of the junior high school.

The majority of high school principals are the administrative heads of their schools and are permitted sufficient initiative to adapt their schools to student needs. The supervisory functions appear to be efficiently carried out with the help of the staff of first assistants.

The chief shortcoming in the schools today is the failure to use the creative ability of teachers. The highly centralized system in New York City discourages contributions from the teachers to the educational program. It is essential that teachers be given the opportunity to contribute to curriculum planning.

## THE ORGANIZATION OF SCHOOLS

Two types of elementary school organization are used in New York City: K-6 and K-8; in other words, kindergarten through the sixth grade and kindergarten through the eighth grade. Pupils from a K-8 school may enter the 9th grade in a junior high (grades 7 to 9), a vocational high (grades 9 to 12), or an academic high school (grades 9 to 12). With two types of organization containing grades 7 and 8 (elementary and junior high) and three containing grade 9 (junior high, vocational high, academic high), it is difficult to provide educational continuity.

Several committees have strongly recommended the rapid building of junior high schools, and the concurrent discontinuance of the eight-year elementary organization. However, the rising birth rate and large influx of population during the recent war gave precedence to creating new elementary school facilities. Junior highs are being built, but not fast enough to permit

complete transition to the 6-3-3 program in the foreseeable future.

In many communities of the City, eight-year elementary schools still exist in clusters, indicating clearly the need for a centrally located junior high.

Although complete transition from 8-4 to 6-3-3 organization has been delayed, a step-up is possible through better utilization of existing buildings.

Concurrently, jurisdiction over the seventh and eighth school years is shared by the junior high school division and the elementary school division, and jurisdiction over the ninth year is shared by the senior high school and junior high school divisions. This overlapping has given rise to a number of problems in organization, curriculum, and administration.

The tendency to pattern the junior high school after the senior high has resulted in excessive departmentalization in the former. The transition of



the student from the sixth grade to the junior high has now been made almost as abrupt as that between the eighth year and the senior high. The division barriers at headquarters and in the field make it difficult to integrate the courses of study. This is an argument in favor of the recommendation for a unified Division of Instruction, operating under one associate superintendent.

The comprehensive high school has been developed throughout the United States. The further development of such a plan in New York City would make senior high schools comprehensive in purpose and program, so that all youth might have access to varied curriculums.

In a highly concentrated population area, a number of highly specialized high schools is justified, and the foregoing is not to be interpreted as suggesting that all high school programs be identical.

Comprehensive high schools in New York City would best meet the needs of society and of the individual, and plans for them should be developed further. The proposed high schools would provide a program that is sufficiently flexible to care for the interests of all students: general exploratory courses for those undecided in interest or vocation, general courses with vocational emphasis for those who plan to terminate their formal education upon finishing high school, and enriched courses and accelerated programs for those with special talents and abilities.

### Organization of Classes

Considerable reduction has been made in class size in day elementary schools in New York City within the past five years (the average now is 31.59). But necessary special instruction in tension areas and classes for mentally

and physically handicapped calls for reduced class sizes, so that classes in other areas must be proportionately larger.

Class size averages in junior high schools have been reduced very little in the past five years (average for 1950 was 32.2). But in junior highs, over 20 percent of total classes are shop, whose size is limited to 20 or 25, so that 80 percent of total classes are considerably above average.

Opinions differ as to proper class size in senior high schools, but there is widespread agreement that for best results in teaching, classes in regular subjects should not ordinarily exceed 30 (average in 1950 was 31.23).

Provisions have been made for small-size classes for handicapped pupils. New York City has long recognized the great need for special training for atypical children and has instituted a system of special classes which is among the best in the nation.

New York State Education Law requires the Board to provide special classes for children with retarded mental development. Approximately 12,000 children, or 1.3 percent of New York City's school population, are being educated in such classes.

New York State Education Law requires the Board to provide special classes for physically handicapped children. Special classes have been organized for orthopedically handicapped children, cardiac cases, low vitality cases, homebound children, children confined to hospitals, acoustically handicapped children, visually handicapped children, and emotionally disturbed children.

Fifty special classes for intellectually gifted children have been organized on an experimental basis in New York



City elementary schools. Pending results of a survey and analysis of the program, no new classes are being organized.

### The Custodial Services

In the 59 schools visited by the project team an extraordinary diversity in quality of custodial service was noted. Some schools glistened; others literally stank. P.S. 187 in Manhattan was an excellently maintained school from every point of view, whereas J.H.S. 83 in Manhattan was poorly maintained in every respect. There is a bewildering variety in the objectives of the custodians.

Three objectives should be established: (1) standards of performance; (2) measurement of performance against standards; and (3) incentives, positive and negative, to assure performance.

Expediting of major repairs through the Borough office is difficult because of too much red tape.

The 1927 book of Rules and Regulations, which is still official, should be revised and brought up to date. The 1950 Cleaning Procedures Manual, though generally definitive, should define the frequency at which these procedures should be used.

Once clear standards are set, there must be some way of measuring performance against these standards. This job rests in two different quarters—with the principal of the school and with the district custodian engineer of the Bureau of Plant Operation and Maintenance.

The principal should have the responsibility of measuring the effectiveness of the custodian's work, and the district custodian engineer should aid in correcting such defects as the prin-

cipal may find. In this connection, there should be a more realistic incentive program to aid in enforcing work standards, and compensation of custodians should bear a closer relationship to their responsibility and work load.

Much of the disparity in the custodian's compensation and performance arises from his ambiguous position. He is recruited by the Civil Service Commission, has tenure, and upon his appointment becomes a member of the Board of Education Retirement System. Yet he is paid no fixed salary. Instead, in return for a specified sum, a custodian is expected to provide a specified kind and level of service, including the hiring of sufficient personnel for his needs. Many qualifications are made concerning the way in which his lump-sum appropriation is expended for personal services. Yet no adequate specifications for satisfactory performance are included in the contract, and no adequate control measures are included to insure performance of the specifications which do exist.

The custodian is selected carefully, but his employees are not. The present rating plan of custodial services is inadequate and actually has no official recognition. Poor service rarely results in downgrading of the custodian.

The Board of Education should move either to a direct Civil Service system or to a true contractual system. The choice rests on a policy decision that can be made properly only by the Board. It is estimated that conversion to a direct Civil Service system would cost an additional \$1,400,000 a year, whereas conversion to a true contractual system would cost approximately the same as the present system. The Board should be guided in its decision



by the requisites of an effective and economical custodial service: complete and modern standards; determination of work loads; job schedules; perform-

ance control; corrective measures to enforce performance control; a suitable plan or organization; and cost control.

## SCHOOL UTILIZATION

The long-range part of the capital budget should be a more carefully conceived plan of action for each neighborhood.

In the 1951-1956 program, there were 118 new schools to relieve overcrowding, at an estimated cost of \$257,401,730. Construction was proposed, beginning in 1953, for 180 projects to replace obsolete school buildings and to supply needed facilities, at an estimated cost of \$260,182,347. Modernization expenditures of \$8,000,000 a year were proposed for each of the six years, at a cost of \$48,000,000.

Since priorities for each of the three types of projects are now based on different criteria, there is no co-ordination of program for any one neighborhood or the City as a whole.

There are at least 11 means of achieving the goal of adequate school facilities in every neighborhood at all educational levels. Before proceeding with the construction of a new school in a given area, the measures for increasing the utilization of available schools in or near the area should be considered:

(1) Modernization of existing facilities.

(2) Closing of obsolete structures that cannot be modernized, either by merger of school districts or new construction.

(3) Repair of all buildings that are structurally sound but which cannot be used now because of needed repairs.

(4) Reallocation of space so that offices and administrative units do not take space needed for instruction, and so that junior high or academic and vocational high schools do not use space needed for elementary classes.

(5) Detailed review and redistricting of school boundaries at all levels.

(6) Elimination of traffic hazards, to equalize use of existing facilities.

(7) Reduction or elimination of social and racial tensions.

(8) Advance planning of school facilities adjacent to large-scale housing projects, and long-term lease of space in public and private housing developments.

(9) Conversion of suitable facilities to junior high use to relieve overcrowding in K-8 elementary schools, etc.

(10) Greater use of bus and subway transportation, particularly by upper grades.

(11) Construction of new facilities as a *last measure*.

It has been pointed out in the Interim Report that the staff of the Division of Housing was too small to do its work. Since that Report was issued, matters have become worse — the professional staff of 12 has dwindled to 9. There is a lack of co-ordinated planning and policy development stemming from failure to appreciate the importance of research as a staff service.

A Division of Programing in the Office of Housing, as proposed in the Interim Report, should be created, with adequate staff and with two organizational subdivisions of a School Popula-



tion Analysis Unit and a School Facilities Analysis Unit.

More than 113,000 grade school children and 9,000 high school pupils are in nonfireproof buildings. Not all obsolete buildings, however, will require replacement. Some obsolete schools continue to be used, while classrooms remain empty in the better buildings; thousands of children could be transferred to better schools, without additional building.

No one at headquarters has the staff, responsibility, or clear-cut mandate to initiate a program of school consolidation. Five old buildings could be abandoned at a saving of \$176,000 a year. The average age of these five obsolete structures is three-quarters of a century. Junior High School 84, Brooklyn, is 59 years old; P.S. 40, Brooklyn, is 68 years old; P.S. 90, Brooklyn, is 73 years old; P.S. 65, Brooklyn, is 78 years old; and P.S. 50, Manhattan, built in 1855, is 96 years old.

The problem is intensified by the practice of the Board of Education, in preparing its six year capital budget and program, of listing virtually every old building for replacement, with little or no study of the possibility of abandoning the school instead of replacing it.

In all probability, New York City parents will continue sending their children to nonfireproof school buildings for the next decade or two, even if a vast program of school construction is undertaken.

The Board of Education does not have any clear-cut standards for determining what constitutes an "obsolete" school building. Two conclusions are apparent from a bird's-eye view of the long-range building program: (1) it will be a quarter-century before the last

of the obsolete buildings are likely to be closed, if reliance is placed solely on replacing with new buildings, instead of closing many obsolete ones and transferring pupils; and (2) most of the Board's long-range capital program represents wishful thinking rather than realistic planning.

A specific illustration of the budgeting and long-range programing proposed is afforded by the schools in East Harlem. A saving of about \$3,367,000 in the proposed expenditure is possible. Two new schools were proposed in the 1951-1956 capital budget and program for construction in 1951 and 1952; two for construction in 1953, and two replacement and addition projects, at a total cost of \$11,227,200. But what is required is that existing schools be reorganized to relieve overcrowding. A new junior high school, and modernization of a number of other buildings, will enable at least three and possibly four obsolete buildings to be abandoned, and all their pupils housed in more modern buildings.

All junior high schools in East Harlem, even those built within the past 10 years, are single-sex schools. Positive education gains would result from reorganization to coeducational schools.

Even though there is overcrowding in East Harlem, there is serious underutilization in three buildings—Benjamin Franklin High School, Wadleigh High School, and P.S. 85. The Board of Education should plan now with the Housing Authority for the leasing of two to four classrooms in each of the new housing projects planned for East Harlem.

Area studies similar to the one outlined for East Harlem should be conducted on a continuing year-round basis by the staff of the Division of Program-



ing. The preparation of a capital budget and long-range program for the City as a whole should be based on the sum total of all such programs, with the timing or priority of each project determined by the circumstances of each area.

### School Construction

Serious defects were found in three recently constructed schools, which are representative of conditions attributable to fundamental faults in the basic organization of the Bureau of School Buildings, Design and Construction, and of the Division of Housing and Business Administration, of which the bureau is a part. It should be possible through organization to save about 10 percent of the \$1,400,000 budget for planning and engineering, or approximately \$140,000 per year. In addition, there is a future potential saving in annual maintenance and operating needs of \$1,150,000 (based on 10 percent of amounts which should be allocated for the latter two items).

A subdivision devoted exclusively to research, testing, and review of new developments in school construction should be set up within the Division of Housing.

School buildings in New York City have been changing periodically during the past 15 years to simple design, more functional plans, and more economical construction. However, the desire for economy occasionally produces false economy. Hazards and waste have also crept in because of insufficient or inept inspection.

No clear procedure is applied in relation to remedying defects and deficiencies that appear when a new school is turned over to a principal. Carelessness in allowing guarantee periods to

lapse without demanding repairs by the contractors costs the City money.

During the one-year guarantee period the Division of Housing should be the receiving point of all complaints, which should be in writing. It should examine these and divide them into proper categories, and give precise and direct instructions to the Bureau of Construction, maintaining a tickler system for follow-up.

The practices and procedures regarding change orders are unrealistic, cumbersome, and time-consuming. In the interests of good administration, the bureau should institute certain basic reforms in the procedures for handling and settling costs of change orders covering more care in determining variations, and better checking of contractors' estimates and special charges, extra work completion dates, etc.

The revised contract form should include a standard arbitration clause, for adjustment of dispute without recourse to law.

Cubic-foot costs vary from \$1.22 to \$2.08, with an average of \$1.37. Pupil costs vary from \$1,265 to \$3,778, with an average of \$1,798. These have not risen in line with rising prices, because of the economy program established in 1948.

Hamstringing regulations have led the bureau to employ subterfuge in connection with test borings and architects' surveys. Provision should be made promptly to permit the bureau to negotiate contracts up to \$2,500 for thorough and complete boring tests and architects' surveys. Boring tests should be made when the site is contemplated in order to help determine site selection.

The number of vacancies and of provisional employees in professional positions in the Bureau of School Buildings, Design and Construction is serious.



Morale of personnel in the bureau is very poor, because of low salaries, slow promotions, and poor working conditions.

Drastic action should be taken to have the Civil Service Commission co-operate more closely with requirements of the bureau; salaries should be adjusted to compete with those of private firms; the Contractors' Bid Room and the Plan Record Room should be manned by clerks, or the former should be taken over by the latter.

During the past two years, re-use of plans and specifications prepared for previous school buildings has become more prevalent, although no standard layout has been developed which can be re-used completely.

Attempt should be made to develop standard plans for such units as classrooms, shops, and auditoriums, to be assembled with appropriate foundation plans.

The bureau's use of outside architects to expedite the building program should prove a useful experiment. It should result in valuable cost comparisons with the bureau's own architectural work and in new ideas in school construction.

Organizational weakness of the bureau exists at the very top. The architect, trained in design, is superintendent of the bureau, a position which calls for an administrator. The work of assistant superintendent in charge of specifications is spread out over the whole bureau except that he does not handle the actual design of buildings.

A reorganization of the divisions of the bureau would be helpful, but insufficient in itself. The major need is for administrative ability at the very top.

### **Architectural Considerations**

A set of written rules governing the building of schools should be prepared,

stripped of pedagogical terminology, but containing the objectives and philosophy of education.

Major emphasis has been placed on four-story buildings. This adherence to one plan for the most part is dangerous. Each school building should be the result of fundamental design steps which may, but will hardly ever, result in the same solution. For example, moving stairways may open the way to multi-story schools.

Because those who formed new residential neighborhoods as young couples do not, in general, move away until their children are grown, the age composition of these neighborhoods is constantly changing. We should therefore try to build schools that are adaptable to the changing demands for primary, then secondary, and then high school functions. This principle should be extended to planning buildings that may be readily changed to other occupancy when they are no longer needed as schools.

The "axis plan" of construction with central entrance and uniform building on either side is not necessary. The gymnasium and auditorium can be on one side, built only as large as needed, and located so the entire building need not be opened for their use at night. Dollars formerly spent for arched openings, carved cornices, extra mouldings, etc. should be reserved for better lighting, mechanical services, and equipment.

With more freedom in planning, it will be possible to use a more irregularly shaped plot, making for more freedom in site selection.

If basic structure—columns, floors, and roofs—is kept to a basic standard and is independent of mechanical services, interior partitions, and even ex-



terior walls, it will be relatively easy and inexpensive to make interior and even exterior changes as building use changes. Manufactured boards or panels, glass in modern forms, etc. make for economy and diversity of design.

Research on making second use of corridor space should continue — for example, widening passageways to accommodate a work area alcove opposite every classroom. The school auditorium should be reevaluated to determine the

possibility of changing the floor slopes to a steeped arrangement, providing foldaway seating, in a manner so that more level floor area can be obtained to permit the room to be used more hours during the day.

The City will profit most in the use of prefabrication by designing so as best to utilize standard products in stock sizes.

Close collaboration is called for between the builder and the educator.

## OPERATIONAL FUNCTIONS

### The Supply Operation

A major need is to eliminate red tape of rules and procedures outside the Bureau of Supplies. The Superintendent of School Supplies is doing an excellent administrative job despite many handicaps created by oppressive procedures and regulations initiated elsewhere.

In June, 1951, the bureau had requisitions on hand calling for delivery of 540,000 items. Thus it had 54 weeks of work ahead of it, at the rate of 10,000 items per week.

The Bureau of Supplies bought \$17,000,000 worth of supplies in 1949-1950. The warehouse (Depository) is in Long Island City.

The bureau is struggling with virtually impossible demands caused by lack of effective centralized management and co-ordination.

Ten steps are recommended which will bring about better management:

- (1) Creation of Board of Supply Standardization, for drastic reduction in non-list requisitions; elimination of useless and duplicated items; setting rigid rules and regulations; better planning of supply needs.

- (2) Top reorganization plan as submitted in Interim Report.

- (3) Consolidating supply accounts into a centralized operation.

- (4) More space in Long Island City Depository.

- (5) Creation of revolving fund or similar device to enable schools to requisition on basis of exact knowledge.

- (6) Transfer from Bureau of Supplies functions not related to purchasing, such as auditing carfare and domestic science bills.

- (7) More personnel because of additional functions assigned to the bureau.

- (8) In-service training course for all employees concerned with requisitioning, etc.

- (9) State legislation to raise from \$1,000 to \$2,500 the level at which the Board of Education must purchase under formal contract.

- (10) Authority for Superintendent of School Supplies to enter into contracts for Board of Education.

Top administrators and other key personnel in the Bureau of Supplies are of high quality.

Perhaps the only immediate solution to the terrible backlog situation is to hire enough help for present emergen-



cies; but in addition, more stringent control measures are needed.

Many examples of duplicate listing on approved lists were found, as well as deadwood on lists. There is also unnecessary division requisitioning. But it is not alone the volume of paper work that causes crises — there are added difficulties from lack of proper central controls. Once-a-year requisitioning has, for all practical purposes, collapsed.

Supply allocations for all purposes should be consolidated when allocations are made to individual schools. A per capita allowance should be determined for each of the activities, and budgetary appropriations should be made accordingly. Thereafter, the allocation per school would be on the basis of the number of children in each of the activities at the per capita rate.

There were about 15,000 non-list requisitions in 1950 resulting in a great deal of extra work.

Poor requisitioning violates the rules that: (1) items that recur regularly should be listed; (2) items appearing on one requisition form should be in specified commodity groups; (3) requisitions should state clearly what is wanted.

A Board of Supply Standardization should be created in the New York City schools, by action of the Board of Education. It should be under the supervision of the Superintendent of Schools. Members might include representatives of the Superintendent of Schools, the Auditor, a member of the Board of Education, and the Superintendent of School Supplies. Arrangements should be made for direct participation by membership or otherwise of other divisions of the school system.

A primary function of the Board of Standardization would be to study lists

and requisitions with a view to simplification of administrative processes.

To permit requisitioning in one fiscal year of supplies to be purchased out of funds for the next fiscal year, a requisition revolving fund is recommended. Under this system, the schools would know their appropriations for supplies on January 1.

Supervision of buyers is inadequate. There are 14 purchasers, of whom 7 hold the Civil Service title of Buyer. There are about 50,000 items in all commodity groups. Direct placing of single orders with a single vendor without competition should be permitted up to about \$50.

Prescribed procedure regarding the processing of vendors' invoices should be changed to eliminate duplication and reduce the time required to get invoices to the Comptroller for payment. Handling invoices should be taken from the Bureau of Supplies and centered in the Auditor's office. Personnel should be assigned to process invoices during payroll preparation time by transfer of employees.

A separate section should be established, within the bureau, devoted to preparation and maintenance of records on vendors and supply lists.

It should be arranged with the Purchasing Section that when the resolution for textbook awards is prepared by headquarters, it should list awards in numerical sequence to save regrouping the items by vendor in the Ordering Section.

With establishment of the new Division of Housing and the new Division of Business Administration, it will be possible to bring about closer co-ordination of the two bureaus involved in operations such as the purchase of window shades.



Many phases of inspection are not adequate, but a solution can be reached only by the Board.

Immediate steps should be taken to free all or part of the sixth floor of the Long Island City Depository for the Bureau of Supplies. Welfare Department space there is wasted. Substantially the whole office should be back in Brooklyn, to cut down the time wasted in travel between 110 Livingston Street, Brooklyn, and Long Island City.

The question of school inventories is one that might well be explored by the proposed Board of Supply Standardization. The study should include study of school stocks in terms of useless, little used, or duplicated items.

The bureau needs a sample room. It is recommended that steps be taken to establish an exhibit of school supplies in a central location.

A control-methods analysis unit should be established in the bureau.

If the bureau were permitted to function in accordance with recommendations presented, improvements in purchasing should yield economies between 2 and 5 percent, or \$200,000. An additional saving of \$50,000 in manpower should result.

### **The School Bus Transportation Program**

New York City's program of school bus transportation for elementary schools is the most liberal in the nation. It will cost about \$1,750,000 in the 1951-1952 period.

Free transportation is provided to public and parochial schools for (1) normal children who live beyond walking distance to school, and (2) children in special classes for the handicapped, regardless of distance.

Complaints and requests for additional service are usually made by parents who are not adequately acquainted with the policies, program, or problems of the City because of the lack of an adequate public relations program for transportation.

Performance by the bus company appears to be adequate, on the whole. It is believed that private operation of the bus program is the most satisfactory method.

The school bus transportation function should remain with the Bureau of Supplies. It is headed by a School Bus Manager (salary \$4,700) who reports to the Assistant Superintendent of School Supplies. The manager has a staff of ten people.

No clear outline of policies and responsibilities within the program has been adopted. This lack causes a great number of complaints and makes it necessary to hold time-consuming conferences for clarifying operating responsibilities.

A manual on the school bus program should be prepared which clearly sets forth program objectives and policies, as well as organizational responsibilities of those concerned with the program and basic operating procedures for administration of the program.

Once the manual for use within the Transportation Section is prepared, information should be prepared for teachers and parents, which outlines the program policies, reasons behind them, and channels for transmitting complaints. This information should be distributed to schools and parents' groups.

The system of controls and reports maintained on the school bus program should be improved. No daily or summary record is kept of complaints, the most vital of all performance indexes.



Present forms could be improved, and new ones added. In the place of individual answers, form letters could be used more easily on routine complaints.

### **Payroll Mechanization**

Centralization and mechanization of payroll procedures are recommended. (The Bureau of Finance studied this jointly with the survey staff and concurs.)

Of over 44,800 employees on Education payrolls, only some 8,000 accounts are processed by machines.

Approximately 1,800 man-days a month are consumed in payroll preparation in the schools. It is estimated that clerical time saved by centralizing payroll preparation would approximate 75 percent of time now spent on the task, or a value of over \$200,000 a year. In the larger high schools, the recommended payroll procedure should eliminate 20 or more clerical positions.

An annual increase of about \$27,000 in rental charges would be required for payroll mechanization. Under the new procedure, all payroll preparation and verification would be performed in the Bureau of Finance. The local school clerk will have no responsibility for payrolls except to record attendance. The local school principal would continue to have responsibility for certifying attendance of staff.

In the school year 1950-1951, there were 53,950 applications filed for excuse of teacher absence with pay. Of these, 88.77 percent were approved.

Payroll computations should be reduced by giving local school principals authority to approve payment for teacher absences not exceeding ten days in the fiscal year, instead of the present four days.

The Board should adopt the policy of prorating annual leave for newly appointed regular teachers. This would have saved \$13,000 in fiscal 1950-1951.

Payroll procedure should be simplified by equating all dates of entry and dates of return to duty after leaves, to the first calendar day of the month. Further simplification will result from the new system in the work of payroll computation, tax and other deductions, and proving totals.

### **Records Management**

A soundly planned records management program in the school system is urgently needed. Lack of a clearly defined policy means loss and destruction of valuable records, overcrowding of storage areas, waste of filing equipment, loss of man-hours in locating information, and loss of money. As much as \$25,000 could be saved by salvaging filing cabinets at the headquarters building.

Pupils' records are supposed to be permanently retained. Every day the Superintendent's office receives some 10 to 15 letters that involve examination of the records of former pupils for birth dates used for naturalization, insurance, or other needs. Many such records cannot be located, having been destroyed by fire, water, loss, or vandalism.

A central record-storage area should be provided, safe from fire, water, theft, vandalism, and heedless destruction; this would be a proper index, saving time of personnel and individuals who make inquiries.

Unnecessary multiplicity of many permanent records and a useless retention of worthless records are found. Reducing the retention period to five years for accident reports alone (still



exceeding legal requirements) would save 200 sq. ft. of storage space and \$460 of filing equipment. A similar setup for payroll records would release about 600 sq. ft. of storage area, and \$1,125 of steel shelving.

A new retention schedule is recommended as well as a thorough weeding out of existing files of records and non-record data. Because of legal restrictions, and to save time, it is recommended that retention schedules, when set up, be presented to the Corporation Counsel for approval.

The following elements are essential to operation of a retention schedule: (1) fixed responsibility; (2) definite times of year set up for retirements; (3) papers retired at same time to be filed contiguously; (4) files marked with inclusive dates; (5) tickler file set up for control; (6) established channels for reporting changes in schedule; and (7) check maintained on issuance of filing equipment.

An excellent filing system has been established by the Chief Clerk in the Superintendent's office. Several features of the system might well be adopted by other bureaus.

Close examination and a clear definition should be given as to what constitutes a record. Opinion should be sought from the Corporation Counsel on this point.

Time, space, and equipment are wasted because personnel folders are duplicated in separate locations. One personnel folder, devoid of unnecessary papers, should be maintained in the Personnel Office and nowhere else.

A Records Management Committee, the members of which are familiar with school records, should be appointed to oversee the records program. A Records Management Officer should also be ap-

pointed to be assisted by a small staff.

The present storage area in the basements at headquarters building should be developed into a modern records center for the Board of Education, with auxiliary storage space on the 13th floor. Present usage of space is far from optimum.

Institution of the records management program outlined is estimated to allow selling 40 to 50 percent of present records as waste paper, placing 25 percent in low-cost storage, and retaining 25 to 35 percent in office areas, thereby releasing some 800 four-drawer file cabinets at a saving of over \$24,000.

### **School Lunch Programs**

Despite an excellent administrative job being done by the Director of the Bureau of School Lunches, disparities still exist which result in quality losses to some of the school children, especially in senior high schools.

Changes in the disposition of the surpluses of high school cafeterias were suggested to the bureau, which could make immediately available approximately \$125,000 to be used for equipment in cafeterias where operation does not accumulate a surplus.

Centralized purchasing of staples, such as canned goods, in high school cafeterias could produce savings of about \$80,000 a year.

The Bureau of School Lunches is headed by the director reporting to the Superintendent of Schools and aided by an assistant director and a chief clerk. The bureau is subdivided into five divisions: central kitchen, garage and warehouses, nonpublic school lunchrooms, elementary lunchrooms, junior high cafeterias, and high school cafeterias. Each is headed by a supervisor.

During each school day approxi-



mately 100,000 lunches are prepared in the central kitchen in Long Island City. By 9:30 these are dispatched by trucks to 541 public schools in the five Boroughs and 103 parochial schools, settlement houses, and children's courts. Average cost to child per meal each was from 12 to 15 cents at the time of the study.

A high level of efficiency is maintained in the school lunch program in elementary schools.

In the high school cafeterias, there is the greatest opportunity for management improvements, e.g., in purchasing, in personnel practices, disposition of surplus funds, and standardization of operations. The basic fault is that each high school cafeteria operates as a self-contained unit, doing its own buying and selling, hiring and firing. The bureau's High School Division gives general supervision, and sets maximum and minimum prices and sanitary standards.

Cafeteria surpluses are unevenly distributed, and some schools without surpluses lack equipment.

Before any decision can be made as to whether or not it is feasible to prepare food in central kitchens and distribute it in trucks equipped to keep it at proper temperature (as is done in some large restaurant chains), a further study of the high school lunch program is recommended. In the meantime, central purchasing of canned goods and nonperishables should be instituted.

Each cafeteria should be permitted to spend up to \$500 annually, using outside contract service, for urgent repairs; or to maintain a separate plumbing, refrigeration, and appliance section in the Bureau of School Lunches, paid for out of a central revolving fund.

Each school should be allowed to retain out of its surplus two allow-

ances: (1) working capital allowance, computed under present formula; and (2) allowance for the school's own equipment, not to exceed the working capital allowance. Any remainder should go to a common fund, to be used for equipment for less affluent schools.

Sampling and testing should be done through an extension of the present system so that the service now performed by the Comptroller's Office for elementary schools may be available for both junior and high schools.

Kitchen and cleaning supplies should be purchased centrally.

The Committee on High School Cafeteria Surpluses should meet more frequently.

Each high school cafeteria should be permitted to purchase cafeteria equipment, in amounts not to exceed \$500 annually, without going through established procedure.

## **Educational Research and Statistics**

As previously stated, a Division of Research is proposed, under an associate superintendent.

Currently there are three separate bureaus engaged in research: the Bureau of Educational Research, the Bureau of Curriculum Research, and the Bureau of Administrative and Budgetary Research.

The Bureau of Educational Research has a Division of Tests and Measurements and a Division of Instructional Research, with a total budget last year of \$156,344.

The Bureau of Curriculum Research is now a part of the Division of Curriculum Development although almost every aspect of its work is a joint responsibility with some other bureau or division. The budget for 1951-1952 is \$279,344.



Although there is considerable functional overlapping between the Bureau of Curriculum Research and the Bureau of Educational Research, no duplication of activity exists because the scope of each research project is rigorously defined.

In addition to its budget work, the Bureau of Administrative and Budgetary Research receives and tabulates, by machine and by hand, all the statistical reports from all the schools. These deal with registers, classes, attendance, and other school data. The bureau is seriously understaffed, which has prevented it from instituting program analyses and studies that might contribute to more effective budgeting.

Research requires specialized, trained personnel temperamentally suited to experimentation, inquiry, critical examination, and appraisal. Such a bureau should not be part of an organization unit that is held accountable for administration.

Educational research should be centralized in one Research Division which should perform staff research and statistical services for the other educational divisions, and which should be directly under the Deputy Superintendent of Schools in charge of educational affairs. Curriculum research should be transferred to the proposed Division of Research.

The Bureau of Curriculum Development should be reorganized and entitled Division of Curriculum, continuing its present functions and activities with the exception of curriculum research. The two research positions and one junior research assistant position now in the Bureau of Curriculum Research should be transferred to the proposed Division of Research.

The Division of Research should be composed of two bureaus, one for educational research and one for program analysis and statistical service. The Bureau of Educational Research should contain two sections, one for tests and measurements, and one for instructional and curriculum research. The Bureau of Program Analysis and Statistical Services should contain two sections, one for program analysis and one for statistical and reference services.

### **Statistical and Tabulating Operations**

Overstaffing and excessive equipment rental are evident in the Report Room and Machine Room in the Bureau of Administrative and Budgetary Research. Closer supervision and co-ordination would result in savings of over \$10,000 a year.

A research assistant with professional training and experience in statistical report control and IBM tabulation should be appointed to supervise the Report and Machine Room operations.

An additional 3,000 man-hours of work could be assigned to the two rooms if proper co-ordination and supervision were available. The Machine Room wasted 252 man-hours, or 21.8 percent of its total time, waiting for work to come from the Report Room.

Many opportunities for savings are possible through the elimination and combination of various activities. For instance, only five key-punch machines are needed instead of the present eight; and one sorting machine instead of two. These savings are made even more plainly evident through a sharing plan, whereby the different services borrowed the idle time of the machines and machine operators.

A calculating punch machine was used only 54 hours out of 3 months.



Thus, rental charges make the cost \$13.60 per hour. Cost of having the work done at a commercial agency would have been only \$6.00 per hour.

Savings possible by eliminating equipment rentals would run \$7,710 a year. Elimination of one unneeded clerk would save an additional \$2,500.

Much of the work of the Statistical and Tabulating Division can be done on the machines of the Bureau of Research, leaving little justification for the machine tabulating installation in the Division of Attendance. The monthly report "Percentages of Attendance" by school and district, now prepared manually by the Bureau of Attendance, can be done entirely by means of IBM equipment at a saving of at least \$5,500 a year.

When the Management and Fiscal Controls Division is set up in the Office of Business Affairs, as recommended

elsewhere, one of its early assignments should be a detailed procedural review of the Central Index of the Bureau of Attendance.

Two IBM installations are now used at the headquarters building. Two more are on order, one for the Bureau of Plant Operation and Maintenance and the other for the Board of Examiners. Annual rental will be \$64,554. Mechanization of teachers' payroll in the Bureau of Finance will require a net increase of eight machines and about \$27,000 a year.

All IBM operations should be centralized in so far as is possible. Preceding this step, however, there should be a thorough study of the administrative and procedural problems inherent in such a plan, so that they may be analyzed and evaluated prior to the change, and the necessary steps taken to ensure smooth operation throughout.

## PERSONNEL PROBLEMS

### Teachers Assigned to Headquarters

At present, there are 344 teachers, with total salary costs of over \$1.5 million, assigned to duty at headquarters of the Board of Education. The Bylaws limit these assignments to a period of three years, except that "the Superintendent of Schools may authorize continuation of any such assignments."

Some teachers so assigned have been there since 1929. Over half of the teachers presently assigned to headquarters have been there for longer than three years.

Two reasons are given for the assignment of teachers to headquarters: (1) to benefit the school system; and (2) to get around budgetary controls.

Some of the teachers so assigned remain on their school's payroll; others are paid by headquarters funds. Two-thirds of the teachers are in the first group. The second group is paid at teachers' salaries with permanent appointees filling their teaching positions.

Teachers so assigned to headquarters do not usually work the full man-year. They take, in many instances, the full 10-week summer vacation, and work only from 9 AM until 3:30 or 4:00 PM, as do regular teachers. The research jobs and special projects requiring pedagogical skill, for which they were originally assigned, have in many cases been completed or abandoned.

These assignments create a great deal of dissatisfaction among the Civil Serv-



ice employees in the headquarters staff. They feel that promotional opportunity is lessened by the great number of higher jobs being filled by teachers and principals—yet they lack the proper grievance channels through which to complain of their position.

The Board's requests for additional central office positions are repeatedly cut by the Budget Director. Consequently, approximately 85 percent of the teachers now assigned are performing duties that the Board regards as permanent.

As a result of the Education Management Study, the Board of Education has detailed descriptions of the duties being performed by the teachers assigned. These descriptions form the basis for an investigation into the types and volume of work being done and offer an opportunity to reorganize records on these "temporary" assignments.

The number of teacher assignments to headquarters could be reduced by: (1) rescheduling so that these teachers adhere to the same work schedule as regular personnel; (2) eliminating unnecessary assignments; and (3) reorganizing and grouping assignments so that nonpedagogical work is done by clerks. These steps would result in immediate savings, as well as long-range savings in terms of efficiency and better employee satisfaction.

The Bylaws should be revised to set a specific limit upon the maximum length of such assignments and to define the types of work to which school personnel may be legally assigned.

A procedure should be established for stricter review by the Board of Superintendents of initial assignments and renewals. Job analyses of duties and work loads should be made. A com-

plete and accurate record of each assignment should be kept. All approved jobs should be filled by open competitive examination.

The record of every teacher on assignment should be reviewed and a schedule published for the return to school duty of those at headquarters beyond the limit time.

### **The Board of Examiners\***

The Board of Examiners, established in 1898 by an act of the State Legislature, consists at present of eight members with life tenure, selected by the Municipal Civil Service Commission. In addition, the Superintendent of Schools or his designated representative serves as an *ex officio* member of the Board of Examiners. All teaching positions and most of the supervisory personnel below the rank of assistant superintendent are filled by competitive examinations administered by the Board of Examiners. Although its procedures are frequently criticized and its rulings sometimes reversed by the courts, the integrity of the Board has not been questioned; it enjoys high prestige in the profession of education.

### **Personnel Administration**

The Board of Education has two separate personnel departments: one for pedagogical and one for administrative personnel.

**Consolidation of Personnel Activities—**  
The two separate personnel units should be brought together in the proposed Division of Personnel to be headed by a single administrator. Appointment of teachers to this division should be ended, and the present teacher em-

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\*ED. NOTE: The extended comments and recommendations on this subject in the Report are not digested here for reasons given in the Editorial Note at the beginning of this chapter.



employees replaced by qualified Civil Service personnel.

The division should maintain a systematic method of editing, indexing, issuing, and revising all material on personnel policies, practices, and procedures. There should also be developed operating statistics, such as a sound absenteeism rate, on which personnel policies could be based.

**Assignments**—Though there is large latitude in assigning personnel to schools, there is little selective placement. There is too much room for influence in the assignment of eligibles to particular schools.

In order to stabilize personnel in schools that are considered difficult, a teacher may not ordinarily be transferred within three years of assignment to a school. Also, many new appointees are assigned to difficult schools. Though a system of seniority appointments would seem to warrant giving the more desirable assignments to those teachers with years of satisfactory service, the quality of education offered all the children must become the prime consideration.

An excellent study was made in 1944 by a committee of assistant superintendents which recommended rotation of assignments in order to man difficult schools adequately. It further proposed a detailed plan for putting rotation into effect, which included the feature of not assigning new teachers to the difficult schools.

The proposed plan has never been implemented, but there should be a clear-cut, written policy as to which factors, and in what order, really determine assignments.

**Teacher Rating**—The objectives of a rating system are to let the teacher know where he stands in relation to

holding his job; to provide incentive to do good work so that his record will be satisfactory; and to provide an opportunity to improve work if his record is unsatisfactory.

The present system of rating does not accomplish the second objective. Principals are reluctant to rate a teacher unsatisfactory. Consequently, many teachers are kept at their job for years after they have first been noticed to be unfit. There must be set up a definitive procedure for rating teacher services, one that will eliminate the fear of reprisal or harassment for an honest rating.

Little effort is made toward job analysis and salary classification within the Board of Education. Many inequities in the system allow an Assistant Director of Home Economics (Foods) to receive less money (\$6,640) than high school first assistants (\$7,394) whom he supervises.

A job analysis unit to be headed by a single administrator should be established within the proposed Division of Personnel, which will encompass both pedagogical and Civil Service personnel.

At present, there is no procedure in the Board for receiving and adjusting employee grievances. When grievances are registered, no record is kept of them. The Marshall Committee, set up to correct this fault, has made an excellent beginning. Its work should be continued and its findings put into working form.

The first essential in the development of a sound promotion policy is the analysis, definition, and classification of jobs according to appropriate grade and title. The Board should use the material of the Griffenhagen Report on classification and pay, while it is still current, as the foundation of a permanent system adapted to its own needs. It should act immediately to delegate the



administrative authority that will put the system into effect. With such a classification plan installed, the Board would be in position to control and justify the use of intra-bureau promotion lists, provisional appointments, and outside recruitment as needed for specialized administrative jobs. Necessarily, given the existing controls by the Civil Service Commission and the

Budget Bureau, the Board would have to get the co-operation of these two City agencies to install an effective program that involves changes in job titles and the funds to effect promotions when warranted.

Recruiting of Civil Service employees should be done by personnel technicians, provided with qualification standards geared to the needs of the agency.

## HEADQUARTERS OPERATIONS

### Office Services

Space in the headquarters building is generally well utilized. However, 10,000 sq. ft. of the total 331,500 sq. ft. can be salvaged for better use. Details of these savings were supplied to the Board.

Central forms control does not exist in the school system. Each bureau designs and orders its own forms. In the 1950-1951 fiscal year, the Board spent approximately \$205,000 on forms. It is estimated that \$21,000 to \$30,000 yearly could be saved by standardization of forms. For example, each of the 54 academic high schools orders a different report card, whereas junior high schools use only one report card. The costs run an average of \$8.30 per thousand cards for the high schools, and \$3.60 per thousand for junior high schools.

In addition to the possible printing-cost savings, it is estimated that forms control and standardization would cut handling costs so that savings of 35 to 50 percent could be realized on non-list forms.

Forms should be standardized as much as possible for all schools and should be controlled by a central office.

Duplicating services in the headquarters building should be consoli-

dated under one organization unit, except for the service in the Board of Examiners. This should result in the scrapping or reassignment of 16 mimeograph machines.

It has been recommended that the Board of Education's calendar be substituted by a process control chart. Multilithing on both sides of the paper would cut the present 165-page calendar to 25 pages, and provide a more readable document.

Sales of the Directory of the Board of Education (Red Book) should be transferred to the Office of Business Affairs and conducted through the central cashier office on the ground floor.

### Office of Business Affairs

The Board of Education's operating expense budget is almost \$300,000,000 a year. The annual capital budget outlay is approximately \$50,000,000. The school plant is an initial capital investment of more than \$700,000,000, at a replacement cost of \$1,000,000,000.

One of the three major administrative posts, previously suggested by this study, is that of Administrator of Business Affairs heading the Office of Business Affairs. The Office of Business



Affairs should be charged with major responsibility for budget estimating within the Board and for conducting the reviews, audits, and appraisals for improvement of business management in the school system.

Three major business bureaus should be set up in the Office of Business Affairs: (1) the Bureau of Finance, (2) the Bureau of School Lunches, and (3) the Bureau of Supplies. This setup would invest the major responsibility for improved business management practices in one top executive, the Administrator of Business Affairs, with his office comprising two divisions in addition to the above bureaus. These divisions are: Management and Fiscal Control, and Office Services.

**The Division of Management and Fiscal Control**—This should comprise three sections: Budgetary Analysis, Management Review, and Fiscal Control.

The Budget Analysis Section would assist in the preparation of the annual departmental expense budgets, in this connection compiling and reporting all pertinent data for the Superintendent's Budget Committee to reflect current status, growth, trends, and future needs of budgeted activities. It would perform the computations and estimates required on State and Federal aid for the school system, check apportionments against estimates, and maintain a current file of information on proposed or contemplated legislative, administrative, or organizational changes in the aid formulas.

The Management Review Section would develop and execute management improvement programs throughout the school system. It would also be responsible, in co-operation with the Personnel Division, for devising and developing in-service training techniques for work

simplification, procedural standardization, and administration problems in all bureaus and divisions.

The Fiscal Control Section would conduct periodic inspections, tests, and audits to verify that services rendered, materials supplied, and contract obligations are in compliance with specifications and requirements. It would also evaluate contract plans and specifications to ascertain that the interests of the school system are protected, and would examine into the qualifications of bidders, contractors, sub-contractors, and suppliers.

The Auditor of the Board of Education has long felt the need for a specialized unit of technically qualified staff to conduct studies and analyses of the management practices of the Board. In December, 1950, the Auditor submitted to the Board of Education a detailed proposal for the creation of such a specialized unit, suggesting a staff of 18, with salaries totaling \$67,830.\*

The functions the present survey staff recommends for this Division of Management and Fiscal Control are, however, greater in scope than those set forth in the Auditor's proposal. These additional responsibilities will require the services of several professionally qualified methods and procedures analysts. The original plan suggests only one methods analyst; three, possibly four, will be needed to do a reasonably adequate job in this important area. Moreover, the functions relating to budget estimating and analysis not encompassed in the Auditor's original proposal will require staff positions in addition to those listed. Most of the personnel requirements for this

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\*ED. NOTE: The Board of Estimate approved this basic plan February 15, 1951, allocating \$53,000 for 12 new positions.



activity can be met by appropriate transfers from the Bureau of Administrative and Budgetary Research whose functions on budget preparation will be drastically reduced under the recommended regrouping and reorganization of functions. Experience with the budget activity may also reveal the need for the addition to the staff of two or three trained budget analysts.

## FISCAL RELATIONSHIPS OF THE BOARD

According to law, the Board of Education in New York City is a corporate body responsible for the general management and control of the public school system. But the Board has been limited in the management and control of schools by the Board's dependency for funds and by the requirement that it obtain Board of Estimate approval for many expenditures.

When the need and location for a school are determined by the Board of Education, it is required to submit a request to the Budget Director and thence to the Board of Estimate for approval. The result has been that the Budget Director and the Board of Estimate have been determining the location of many of the schools.

Work, labor, and supply contracts are also controlled by the required approval from the Budget Director for contracts ranging between \$2,500 and \$10,000, and from the Board of Estimate for contracts above \$10,000.

As a result of these controls, the Board of Estimate and Budget Director, not the Board of Education, make the ultimate decision about the quality of the educational program in New York City. They determine, through budgetary controls, the number of adminis-

Services, such as mail and messenger, duplicating, timekeeping, records management, sale of publications, and fees collection, should be grouped into one division, the Division of Office Services. This should be headed by an experienced business administrator, with a staff recruited from the various bureaus and divisions now providing these services separately.

trators, teachers, and the amount of clerical help needed, as well as the amount to be spent for books and other school supplies.

The fallacy of such control is seen when it is considered that budgetary requests of the Board of Education are based on the opinions of professionals trained in the field of education, then vetoed and manipulated by a staff untrained in educational concepts. In addition, excessive delay is encountered in securing approval for certain urgent needs.

Two brief but representative examples of how the Budget Director determines the location and priority of school buildings proposed by the Board of Education, are:

(1) For the new Junior High School 120, Bronx, the Budget Director chose a new site which would cost, according to various estimates, between \$450,000 and \$700,000 for rock excavation and foundation work. He indicated that it would take one year to prepare the site for the school and deducted \$2,200,000 from the 1951 capital budget. The Board of Estimate accepted the recommendation. The survey staff's Interim Report stated that this building is not needed at this time and that a better site is available for it, if and when



Junior High School 120, Bronx, is needed.

Stating that the construction of the new Junior High School 120, Bronx, and the full utilization of other nearby existing schools would make unnecessary the building of Public School 130, Bronx, the Budget Director recommended the deletion of it from the 1951 capital budget. Even though the Board of Education priority rating of need for this building is 7, the Board of Estimate agreed with the Budget Director.

(2) Public School 122, Bronx, has a priority of 42, so the Board of Education asked for site acquisition only. The Budget Director believes that the building is needed now to relieve overcrowding in Public School 86, Bronx. The Board of Estimate adopted the Budget Director's recommendation and added the project to the 1951 capital budget.

The issue is resolved not in answering whether or not the Budget Director's office has been frequently wrong in its decisions, but rather in whether or not it is usurping a power that does not properly belong to it. There is no doubt that decisions of the Budget Bureau constitute determinations beyond just the question of dollars, but directly affect educational policy.

### Budget Preparation

Formulation of the budget starts with its planning and preparation, and ends with adoption by the City. The process includes five major steps: (1) call for estimate; (2) preparation of activity estimates; (3) Superintendent's budget estimate; (4) action by the Board of Education; and (5) action by the City.

The Board of Education budgetary process, in comparison with other City agencies, ranks at or near the top, conforming closely to the principles of modern budgeting. Still the Board's budgeting is not so strong as it could

be. Its weaknesses, however, lie not in the process itself, but in the lack of an organized management approach.

Responsibility and authority for the budget should be fixed in the proposed Office of Business Affairs.

The most important budgetary control relates to personnel service. The Board of Estimate exercises rigid control of this item. Other important controls relate to approval of contracts for repairs and replacements, and to budget modifications.

### Fiscal and Political Responsibility

The project team concurs\* with the following definition of fiscal independence and fiscal responsibility for school systems formulated by the Moore Committee.\*\*

(1) The school district shall have as its governing body a board of education elected by the voters of the district.

(2) The school district, through its board of education, shall have full responsibility for, as well as control over, the local administration of the school district's current fiscal affairs:

(a) The school district shall have a tax limit separate from that of the City.

(b) The annual budget shall be prepared and adopted by the board of education and shall not be subject to approval by municipal authorities.

(c) School district taxes shall

\*ED. NOTE: A separate monograph on fiscal independence, taking the opposite position from that of Messrs. Strayer and Yavner, was prepared by the consultants on the Finance Studies. It appears in its entirety as an appendix to Chapter XIII of "The Financial Problem of the City of New York," by Robert M. Haig and Carl S. Shoup. See Section 3 of this chapter.

\*\*ED. NOTE: See State Comptroller's Committee on Constitutional Tax and Debt Limitations and City-School Fiscal Relations, Second Report, March 30, 1949, pp. 26-27.



be levied by the board of education and shall be billed separately from those of any other political subdivision of the State. The school district shall be permitted to contract with the City for services in the billing and collection of taxes.

(d) The school district shall assume the burden of its delinquent taxes through use of a tax overlay. Tax delinquent property shall be sold by the City or County and not by the school district, but the school district shall receive its proportionate share of receipts therefrom.

Of cities in the United States having between 100,000 and 1,000,000 population, 47 percent have fiscal independence. All cities in New York State, under 125,000 population, have fiscal independence, and the right to levy taxes.

The present authors feel that only through giving control of education to the people can the most complete and responsible system be worked out for New York City. This would entail fiscal independence; the power to levy taxes as needed, but under State Law permitted; and voicing of the citizens' opinions in election of members of the Board of Education.

In carrying out a building program under the fiscal-independence setup, the Board of Education should work closely with the City Planning Commission.

In 78.1 percent of all cities in the United States of over 100,000 population, members of the Board of Education are elected.

The following plan is recommended for selection of members of an elected Board of Education in New York City:

(1) The Board should be composed of nine members, as it is now, chosen from the City-at-large. The term of office should be increased to 12 years. The statute putting this plan into effect should end the terms of the

members-at-large at the time when the Board chosen by the electorate is to take office. At the first election, three members should be elected for four years; three, for eight years; and three, for twelve years. Every four years thereafter, three members should be elected for a 12-year term. Elections should be held in the "off year" when neither a President, Governor, nor Mayor is to be elected.

(2) Since the size of New York City makes it difficult for the electorate to become familiar with the qualities of men and women who would make competent Board members, a group of representative citizens, designated by civic organizations of which they are members, should be formed into a nominating committee of 16 members. This group should choose one person for each vacancy on the Board. Individuals and groups within the City should be given an opportunity to propose to this nominating committee, but the entire responsibility for every name listed should rest upon the nominating committee as a whole.

(3) The personnel of the nominating committee might well be recruited from such City-wide organizations as the following: the American Association of University Women, New York Chapter; the American Federation of Labor; the Citizens Budget Commission; the City Club; the Citizens Committee on Children; Citizens Union; the Civil Service Reform Association; Columbia University; the Commerce and Industry Association; the Congress of Industrial Organizations; Fordham University; Manhattan College; the New York City League of Women Voters; New York University; the Public Education Association; the United Parents Association; the Urban League of Greater New York; the Women's City Club; and Yeshiva University. After the first committee is organized the continuance of the sponsoring groups responsible for the naming of nominees should be for a period not to exceed five years. Thereafter



the continuance of each of the organizations should be subject to a vote of the members of the committee. This provision is intended to make it pos-

sible for an organization no longer active to be replaced by one that might better represent some important civic group.

## DECENTRALIZATION

### Local School Boards

Local school boards are required by State law. In New York City there are as many local school boards as there are local school districts (23) composed of six members each: five appointed by the President of the Borough for five years and one member of the Board of Education designated by that Board. An assistant superintendent is assigned by the Superintendent to advise the local board.

Many of the functions and duties assigned to the local boards by the Bylaws of the Board of Education give the local members responsibilities which are administrative and supervisory, and involve inspecting all schools in the district, excusing absences of teachers, and recommending transfers of professional personnel.

The importance and value of the local board to the schools in the community and to education as a whole have deteriorated to such an extent that its existence is often merely a matter of form. Too often appointments of members are made upon the recommendations of the local political leader.

The local board should serve as a lay advisory council whose chief purpose would be to furnish a two-way channel of expression between the schools and the people. The board should be made up of community citizens vitally interested in education and eager to co-operate with school officials.

Representatives of local parents'

organizations should nominate members of local school boards. Lay committees should be formed for this purpose, and the Board of Education should assign the field superintendent to act as advisor and presiding officer for meetings of this committee.

To bring about the proposed changes in duties and functions of the local school board and the method of appointment, it will be necessary to revise the State Education Law and to change the Bylaws of the New York City Board of Education.

### A Decentralized School System

Study has revealed that New York City's school system does not give as much value for its money as do smaller districts where the individual school and its local community have a closer relationship.

Closer public contact and a higher degree of public participation in the educational program of New York City should be encouraged. This could be accomplished most readily by decentralizing the educational system and dividing it into a fairly large number of communities, each electing its own board of education, operating its own school system, and responsible to the State Department of Education for maintenance of minimum standards. Each community would be leagued with the others in a centralized, co-operative service organization for the entire City which would provide maintenance, sup-



ply, and other facilitative service, as well as research. This ideal is not immediately obtainable, but the first steps can be taken now by a fiscally

independent school system with general powers of taxation, provisions for voting on certain tax increases, and election of the Board of Education.

## ADMINISTRATION OF THE MUNICIPAL COLLEGES

The four municipal colleges in the City of New York are: City College, Hunter College, Brooklyn College, and Queens College. Total enrollment in the spring of 1950 was 71,645 students, and total annual receipts in 1949-1950 were \$29,550,000.

The Board of Higher Education is composed of 21 resident citizens of New York City, with representation from the Boroughs based on population. It has the following powers and responsibilities: (1) selection and acquisition of sites for public higher education, and regulation of the use of such facilities; (2) budget preparation and fee regulation; (3) organization of college faculties and administration; (4) prescription of conditions of student admission, attendance, and discharge; (5) establishment of courses and curriculums, and granting of diplomas, certificates and degrees; and (6) administration of all gifts, bequests, and trusts from private sources.

The counsel of professional educators, prominent citizens, and civic groups should always be solicited prior to the appointment of members, and only those people should be appointed whose accomplishments are outstanding and whose service will enhance the prestige of the Board.

The Board is unwieldy and should be reduced to nine persons. The State should be represented in proportion to its total financial contribution to the municipal college system. Members

should be appointed from the City-at-large rather than from each Borough, with one appointed each year to serve for nine years.

The Board of Higher Education operates through the following standing committees: Executive Committee; Local Administrative Committees; Committee on Finance Facilities; Committee on Trusts and Gifts; Committee on Program and Personnel; and Committee on Legislation and Bylaws. Because of the crowded calendar of the Board, these committees make recommendations in separate meetings, which are then passed on by the Board, with very few changes or exceptions.

The Board should function as a committee of the whole, abolishing the standing committees, and distinguish more clearly between the policy-making function and the executive function.

**The Chancellor**—With a view to solving the problem of unified administration, a chancellorship for the municipal college system should be established. The proposed chancellorship will enable the Board to reassign many of the administrative details that presently hamper its functions.

The Chancellor should be a man of professional distinction comparable to that of the four college presidents. The salary of each should be \$25,000 a year.

The Chancellor should be nominated by the members of the Administrative Council, and elected by the Board. He would co-ordinate the major policy and



administrative problems of the colleges, and represent them with outside agencies, particularly City and State officers, the trustees of the State University, and the Federal government in matters of gravity and Federal aid.

The title of Administrator should be changed to "Assistant to Chancellor in charge of Board Affairs."

The offices of the Board and its administrative staff should be given more space apart from existing college plants.

The six units within the office of the Administrator (central office) are: (1) clerical service, (2) legal advice, (3) accounting and auditing counsel, (4) purchasing and stores control assistance, (4) public relations guidance, and (6) architectural and engineering counsel. The central office should be directly responsible to the proposed Chancellor, who is to be the permanent chairman of the Administrative Council.

**Administrative Council**—The present duties of the Administrative Council are as follows:

(1) To formulate, and revise periodically, a co-ordinated and reasonably complete system for higher education for the City of New York; to indicate for each constituent institution its specific functions in this City-wide plane of higher education.

(2) To present to the Board recommendations of scope, procedures, and policies that affect more than one of the constituent colleges.

(3) To recommend to the Board plans for the development of the total physical properties that will further the general educational program.

(4) To present to the Board the budgets of the entire college system.

The Administrative Council should continue to function in a revised organizational setup which, in addition to its present membership of the four college presidents, should include the proposed

Chancellor as chairman. The Chancellor will function as official spokesman for, and as liaison between, the Board and the Administrative Council.

Members of the Committee on Personnel and Budget within the colleges should be relieved of one-half their teaching duties during the period of service.

The findings of the Woodburne Report concerning the Faculty Organization Bylaws should be reaffirmed and a new organizational setup should be instituted for the faculty councils.

Departmental representation by rank on the faculty councils should be abolished, but one elected representative should represent each department.

The faculty council should have power to make recommendations to the Administrative Council and, through its chairman, to the Board of Higher Education.

### **The Need for Technical Institutes and Community Colleges**

The only publicly supported two-year college in New York City is the New York Institute of Applied Arts and Sciences in Brooklyn. Its capacity is limited by law to 2,250 students. Private junior colleges accommodate an almost inconsequential number of students. The State University of New York conducts two-year programs in six agricultural and technical institutes, and in five institutes of applied arts and sciences.

The 31 vocational high schools had 45,886 students enrolled as of October, 1950.

The New York Metropolitan Area has an unserved potential of 85,127 fulltime, nonveteran students.

Of the 170,000 annual net job openings in New York City, 23 percent require post-high-school work.



The present system of higher education, lacking two-year facilities, cannot provide an integrated system of higher education for the City of New York.

Municipal colleges of New York City have been operating at capacity for the past several years. Standards for entrance to these colleges are so high, and facilities so limited, that in 1940 only 50 percent of the 47,000 students graduated from high schools continued in any form of post-secondary schooling. Only about 16,000 applied at any of the four municipal colleges; half of these were turned down because of the high entrance requirements. College education in New York City is limited to those students of outstanding ability who have planned their high school curriculum to prepare for college entrance.

Persons in the upper half of the high-school graduating class who have appropriate interests and motives should have the advantage of post-secondary schooling.

A two-year community college should be established in the Borough of Richmond, which is the only Borough without a public college. It should have the following two distinct programs of general education: one terminal or preparatory equivalent in standards and quality to the freshman and sophomore programs of the municipal colleges; and a terminal program of different content, pace, and instructional technique for less academically qualified youth and youth with vocational plans.

Since the same benefits are being presently extended to residents of Manhattan, Queens, Brooklyn, and the Bronx, the City of New York should assume responsibility for two-thirds of the operating costs of the proposed community college for Staten Island, the remainder to be paid by the State.

As soon as possible after the opening of the recommended community college for the Borough of Richmond, additional junior colleges and institutes for the rest of the City should be established.

### **Fiscal Relationships of the Board of Higher Education**

The Board of Higher Education, in order to provide free collegiate education, is set up as a "separate and distinct body corporate." There is, however, no means provided whereby the Board can secure adequate financial support for its program. It is fiscally dependent upon the City authorities. This dependence gives City authorities an unwarranted share in determining the educational program, much the same as with the Board of Education.

With the recently increased admission demand on the day programs of colleges, about half the applicants have been turned down, and have either sought admission to night classes, gone to out-of-town schools, or abandoned altogether the idea of collegiate training.

The City, State, and Federal governments share the cost of providing free collegiate education. Up until five years ago, the City furnished 80 percent of these funds. The major sources of income for urban universities are (1) student fees, (2) taxation, (3) endowments, and (4) gifts for current use.

The recent decrease in receipts from the Federal government for veteran training has been offset by increases in the tax levy, State funds, and student fees. The trend is likely to continue unless another veteran education program is begun.

While undergraduate registration rose 56 percent in the last five years, the tax levy budget of the Board of



Higher Education rose only 46.7 percent, and the total City budget rose 62.4 percent. Law prohibits the Board of Higher Education from levying tuition charges to make up for increased costs. Thus, compared with other institutions throughout the State, the municipal colleges have the lowest income per full-time student.

Unless additional public support is forthcoming, the municipal colleges will be unable to meet present demands upon them, much less consider expanding educational offerings. It is estimated that more than \$5,000,000 additional financial support would have to be provided to furnish the quality of instruction that the Board of Higher Education thinks worthy of the City of New York.

To accommodate the 56 percent growth in enrollment, there has been only a 20 percent increase in the instructional staffs of the municipal colleges.\*

As a result of underfinancing, faculty salaries are inadequate and many faculty members are leaving to join the staffs of institutions which will pay them equitably. While the cost of living index has risen 69.6 percent since 1939, average faculty salaries have risen only 35.4 percent.

Clerical manning and salaries are inadequate. In the 1949-50 budget the Board of Higher Education requested 50 new clerical positions. No new positions were allowed. In the 1950-51 budget the Board requested 37 new clerical positions and 3 administrative positions. As of February 1, 1951, the Board of Estimate approved 5.

\*ED. NOTE: The validity of this comparison has been questioned. The increase in registration from 1945 to 1950 was due largely to the fact that in 1945 many of the students were in the armed forces and enrollment was abnormally low. In 1950 the students returned to the colleges and many more registered under the GI Bill.

Buildings and facilities are overcrowded and in need of repairs. It is estimated that needed capital projects, in priority groupings including community colleges, would cost \$67,570,000.

### **Fiscal Control by the Budget Director and the Comptroller**

The imposition of a line budget by the City of New York, at variance with State Education Law, upon the College of the City of New York requires the budget requests to be prepared a year and a half before the money is spent. Unforseeable changes, found necessary during this time, require revisions and "red tape" that waste both time and money.

To overcome the problem of inadequate staffing, the Board has found it necessary to engage administrative staff members by placing them on teaching lines in the budget.

Revisions made by the Budget Director have in the past four years caused deficits in education spending that would not have occurred had the Board's estimates of income not been "adjusted." Operations are further handicapped by imposing "required accruals" on budget appropriations.

The Budget Director has assumed control of \$5,000,000 yearly in Federal funds for veterans fees under Public Law 346. All other State and municipal institutions solicited by the Board of Higher Education reported that such funds are collected and administered by them, not by State or municipal jurisdiction. At present the Budget Director seeks to control the allocation of State funds for the Division of Teacher Education.

The Budget of the Board of Higher Education should be prepared and executed on a functional basis. The efficacy



of this is seen by the adoption of such budgeting methods by the Federal government.

City officials should permit the Board of Higher Education to adopt the accounting system recommended by the National Committee on Standard Reports for Institutions of Higher Education.

Relations between the Board of Higher Education and the municipal fiscal authorities should be modified to permit the Board to administer public appropriations and internal income without the multiplicity of protective safeguards now existing.

### **Incorporation in the State University**

The College of the City of New York represents a functioning educational system with a physical plant of more than \$40,600,000 in assessed valuation. It has more than 70,000 students enrolled in day sessions and extension programs. It has 1,940 professional, 596 clerical, and 608 building and grounds employees. In 1949-1950, total receipts of the system were \$29,549,208.89.

Several alternative proposals for increasing financial support include:

(1) Revisable setup based on student enrollment to determine allocation of City funds.

(2) Increased endowment income program.

(3) Levying of modest tuition charges.

(4) Incorporation into the State University system.

Although all these alternatives for increased financial support should be studied with care and pressed forward if necessary, the most logical and desirable solution to underfinancing is to be found in the State University plan.

The State of New York has set minimum standards for the payment of professional teaching officers. Unless this edict is supported by State funds it becomes an arbitrary use of power.

City College takes a substantial load off the State's responsibility of providing higher educational facilities.

The State University of New York should absorb the New York City municipal college system, and thereafter exercise full control over, and take full responsibility for, its management and support, as provided in Article 8 of the State Education Law.

One of the alternatives that should be considered in determining the financial future of higher education in New York City is that of assigning to the municipal colleges responsibility for offering graduate training, with State financial support, in selected subject areas such as clinical psychology, public administration, engineering, and social work.

## **ESTIMATED SAVINGS IN CURRENT EXPENSES**

The following is a summary, in tabular form, of the savings indicated in the Strayer-Yavner Report. These are the estimated savings in annual operating expenses of the public schools. They do not include the estimated savings in the capital budget that would result from recommended changes in the school building construction program.

Some of the savings, such as the central purchasing of food stuff for the school lunch program, could be effected immediately. Others could be effected only after recommended improvements have been installed.

Reference is made to the page in the final Report where each of the "savings" is indicated.



## CHECKLIST OF SAVINGS

	Page*	Amount
Closing 5 old school buildings .....	270	\$ 176,000
Closing obsolete P.S. 70, Manhattan	279	18,000
Revisions in planning of school construction .....	315	140,000
Cutting future maintenance and operating needs of school buildings	315	1,150,000
Improved management of supply operations .....	525	250,000
Payroll mechanization .....	566	200,000
Prorating annual leave of newly appointed teachers .....	584	10,000
Changes in filing equipment:		
Of Headquarters .....	588	25,000
In the Schools .....	588	25,000
Utilization of basement and attic space for storing records .....	588	35,000
Lunch program—central purchasing	654	100,000
Rental of tabulating equipment.....	678	10,000
Transfer of Attendance Bureau tabulations to Research Bureau.....	678	13,000
Saving on space at Headquarters....	878	35,000
Standardization of forms .....	887	21,000
Revised buildings and sites calendar	895	3,000
<b>Total .....</b>		<b>\$2,211,000</b>

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\*ED. NOTE: The pages listed refer to the Strayer-Yavner two-volume final Report.

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## SECTION 3

**FISCAL INDEPENDENCE**

BY

ROBERT M. HAIG AND CARL S. SHOUP

The Strayer-Yavner Report proposes: (1) that the function of public education in New York City be segregated from other public functions; (2) that the Board of Education be made elective rather than appointive and be vested with taxing and borrowing powers appropriate to its needs; and (3) that the administration of the City's public schools be liberated from the budgetary and fiscal controls exercised by the general municipal government.

**Allocation of Local Tax Money**

At present, the decision on how much shall go to the public schools of New York City is made from year to year by elected officials, under the leadership of the Mayor and with the aid of his Budget Director. These officials, who are subject to certain constitutional and legislative restrictions, consider at the same time not only the claims of education but those of all other municipal activities as well. They then can arrive at an allocation of financial support which presumably reflects their interpretation of the desires of the people. Although the people of the City have no opportunity to express directly their opinion on how much should be allocated

to education, they can always protest, and frequently do so, effectively. They can express dissatisfaction by their votes every four years for Mayor and other members of the Board of Estimate, and for members of the City Council. Usually, however, the issue of financial support of the public schools is not sharply drawn in the municipal elections.

Under the Strayer-Yavner proposal, an elected Board of Education would decide how much money should be spent on local education. Its decision would be taken without reference to, or comparison with, the claims of other municipal activities. Its decision, taken each year, would be within a limit fixed by the State, a limit capable, however, of limited upward adjustment by the electorate at intervals of not less than five years. Every fourth year the voters could express satisfaction or dissatisfaction when they would have an opportunity to vote for three of the nine members of the Board of Education. Thus eight years would have to pass before a majority of the Board could be removed.

If, as proposed, the Board of Education were elected, instead of appointed as at present, would the quality of membership of the Board rise or decline? Would men of the desired caliber be less willing to stand as candidates for

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Digest from "Fiscal Independence for Public Education in the City of New York," Appendix to Chapter XIII of "The Financial Problem of the City of New York," by Robert M. Haig and Carl S. Shoup, June, 1952.



election, with attendant expenses that might amount to \$25,000 in a jurisdiction of this size, than to accept an appointment from the Mayor? Would control of the school system, with its multitude of positions and its budget of more than a quarter of a billion dollars, be likely to become a prize to be striven for by political machines?

The usual reaction in past discussions of this issue has been that election of the Board of Education would obviously be undesirable. The Strayer-Yavner proposal counters such objections by safeguards in the form of off-year elections, a long term of office (twelve years), and nomination of a slate by a panel of civic organizations. The question is not only whether these safeguards would be effective, but whether they would bring disadvantages of their own—chiefly, an impairment of the Board's responsiveness to the people's wishes.

Under the Strayer-Yavner proposal, the budget for education would be drawn up, not by those who must also draw up budgets for other services, but by professional administrators of the school system, or by a professional staff of the elected Board of Education. The only weighing of education needs against the needs of other services such as fire, police, welfare, etc., would be done (1) by the State, in deciding what taxing power to extend to the Board of Education, and (2) by the voters, when asked to approve increases in tax limits or to vote for members of the Board. Should any particular service, like education, be given the privilege of exemption from direct comparison with other services? If it is to be given this privilege of a special appeal to the electorate and to the State authorities, the reasons must indeed be highly persuasive. Would the public, under this

arrangement, really be closer to the decision-making process than it is today?

### More Tax Money for Education?

Studies of the experience of other cities with fiscal independence have shown that it has not been a significant factor in determining school expenditures. However, it seems likely that adoption of the proposal under discussion here would, in the short run at least, result in an increase in the expenditures on public education. The suggested limits on the taxing power of the Board of Education, for instance, are designed to give leeway for substantially increased expenditures.

The Strayer-Yavner Report implies that the City has used for other functions a certain amount of money that should have been used for education, pointing out that the percentage of the real estate tax and general fund appropriated for education has been decreasing, and that the City now pays a lower percentage (and the Federal and State governments a higher percentage) of school costs than in the past. Neither of these percentage computations, however, establishes discrimination against education in the allocation of funds. As the City assumes new functions and new services (for example, welfare), the older functions must account for a smaller *proportion* of the City's total outlay. Also, as the Federal and State governments assume more responsibility for financing new educational programs and insuring minimum educational standards, the *percentage* of the education budget met by City funds must be expected to decrease, even though the absolute amount contributed by the City increases.

Revenues for education purposes,



measured in constant-value dollars, are said to have decreased by 18 percent from 1939-40 to 1950-51. But this fact reflects one of the major sources of the City's financial difficulties: inflation, and an inflexible revenue structure. All other municipal activities, too, have been affected by the insufficiency of funds resulting from this problem. The indicated remedy would seem to be new revenue sources for the City as a whole.

### Some Implications of the Proposal

The Strayer-Yavner Report suggests that New York City, in financing education under fiscal independence, might follow the pattern established by the State Education Law for Upstate cities of less than 125,000 population. The Board of Education would be given power to levy a real estate tax rate not exceeding 1.25 percent, estimated to be adequate for the education program, including debt service, at the present time. At intervals of not less than five years, the people might vote on a proposal to raise the rate limit by 0.25 percent, up to a maximum of 2 percent.

However, a constitutional amendment would of course be required, and the proposal therefore could not become effective before the fiscal year 1954-55 at the earliest, even if it had been initiated by the last legislature. But by 1954-55, according to the Strayer-Yavner estimates, the Board would probably need more than the equivalent of a tax levy of 1.25 percent. Hence it would be advisable to ask initially for 1.5 percent. Then, assuming further increases of 0.25 percent were approved by the electorate at five-year intervals, it would be at least twelve years from July 1, 1952, before the maximum rate of 2 percent could go into effect.

The amount of City funds appropri-

ated for education in 1951-52 is the equivalent of a real estate tax levy of about 1.17 percent. The entire basic real estate tax levy is 3.08 percent. Under the proposal outlined in the preceding paragraph, the real estate tax rate would reach 3.91 percent, even if there were no increase in it at all for purposes other than education. This total figure is so high that, if the proposal were adopted, it would in fact be unwise to increase the use of the real estate tax for purposes other than education. But since the maximum rate would not be reached for twelve or fifteen years, a considerable part of the potential maximum real estate tax would presumably be tied up, unavailable for any use at all during that period. This illustrates the increase in inflexibility of revenue arrangements that is apt to arise when the taxing power is split between two or more authorities.

The smaller cities Upstate are authorized to use, for educational purposes, taxes on consumption of utility services, and other special levies, including sales taxes, restaurant taxes, admission taxes, liquor taxes, and so on, which the cities are empowered to impose for city purposes. But New York City (in contrast to the smaller Upstate cities) is already making extensive use of such taxes, so the two cases are not parallel.

The proposal regarding the real estate tax would still leave the City school system vulnerable to further inflation, the chief cause of its recent financial difficulties.

Finally, if the Board of Education were given its own tax sources, the State would have to deal with two contending agencies in working out a local tax program for the New York City area. In the final analysis, the State, rather than the local citizens, might be



the body that would find itself more or less continuously considering the question of how much taxing power should be allocated to education and how much to other functions.

Under the proposal, the Board of Education would also be given primary responsibility for the capital budget for education, and the constitutional debt limit would be increased to 12 percent with 3 percent (one-fourth of the total) allocated to education.

At present, the long-term indebtedness attributable to education amounts to approximately 1.78 percent of the constitutional debt-limit base as it stood before the amendment ratified November 6, 1951, and somewhat less under that amendment, whereby the debt limit is computed on estimated full value of taxable real estate rather than assessed value. In any case, an allocation of 3 percent to education would represent an increase of from 1.27 to 1.40 percent of the constitutional debt-limit base. Servicing the increased educational debt would require an increased real estate tax levy of about 0.1 percent, which would presumably be part of the levy earmarked for educational purposes.

In principle, the proposal for independent borrowing is open to the same objection as that for independent taxing power, with respect to allocation of government resources among competing services. The City Planning Commission, under this proposal, would have authority only to review proposals for sites. Even here, the Board of Education would have power to overrule the Planning Commission, by a two-thirds vote.

It is claimed that administrative control exercised by the Budget Bureau in the field of education has resulted in

unnecessary administrative work, delays in execution of programs, and unwarranted interference with planning and administration. The indictment is impressive, but the question remains whether fiscal independence is the proper remedy. A general budgetary reform might remove the cause for complaint long before fiscal independence could be put into effect. However, if such budgetary reform proves difficult to obtain, the case for fiscal independence would thereby be strengthened. And if the citizens of New York City are alert enough to manage an educational system, as the Strayer-Yavner Report asserts, are they not presumably alert enough to bring about budgetary reform?

The point is made repeatedly in the Strayer-Yavner Report that education is a State function, and it is implied that, consequently, the City has no right to assume control over educational policy or the education budget. Most of the functions performed by the City, however, are State functions, and the City itself is subordinate to the State. Police is a State function; in New York City, this is performed entirely by City police, who spend much of their time enforcing State law. The fact that education is a State function does not prove that the City has overstepped the bounds of its authority.

It is sometimes asserted that education is so important that it must be given top priority as compared with all other governmental functions. But surely fire and police protection, public health and sanitation, and many other services must be maintained on at least a minimum basis if the community is not to decline rapidly, or even collapse. Would anyone seriously contend that the last dollar of a requested education



appropriation must be granted before any provision is made for fire or police?

### Conclusion

Fiscal independence of education is not strictly essential to the achievement of many benefits that could be hoped for from its adoption (for instance, freedom from unreasonable budgetary

restrictions), and it does have an unfavorable effect on the fundamental task of allocating scarce government resources among the many services a local government must perform. It would worsen, not improve, the mechanism for arriving at decisions that accurately reflect community desires and soundly apportion limited resources.

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## SECTION 4

# ACTION OF THE MAYOR'S COMMITTEE

### General Policy

(1) The Mayor's Committee finds that the Board of Education is hampered by jurisdictional conflicts with other agencies of the City and that the Board frequently intervenes too extensively in the administrative details of the schools. We recommend that responsibility for all aspects of school administration should rest with the chief executive officer—the Superintendent of Schools. All members of the professional staff should be responsible to the Superintendent of Schools. The Board should concern itself with policy determination; responsibility for implementing policies should be vested in the administrative staff without interference by Board members. The Board should seek to clarify its relationship to other City agencies with regard to their respective functions and to eliminate jurisdictional conflicts. Procedures governing the relationships between the various City agencies should be established to promote co-operation and administrative efficiency.

(2) The number of Board committees should be reduced and the Board of Education should act as a Committee of the Whole on all important matters, as is already being done with regard to Instructional Affairs and Buildings and Sites. Special committees should be appointed for the purpose of dealing with specific problems when needed, but should be discharged when their task is accomplished.

(3) The placement of items on the agenda for Board meetings should be the joint responsibility of the Superintendent and the Board. Reports by the Superintendent, bearing upon policy matters, should have a regular place high on the agenda of Board meetings.

(4) We find that jurisdictional conflict between the Board of Education and the municipality is most acute in the area of fiscal policy. Under present budgetary procedures, education policies and practices are frequently determined by the Bureau of the Budget. This arises primarily from the control by the Budget Bureau over specific items in



the budget for current operations, especially those involving new services, appointments, reassignments, and requisitions. Similar conflicts occur in connection with the capital budget, particularly in the selection of sites and the determination of priorities and types of school buildings. We therefore recommend that the Board of Education should seek clarification of jurisdictional conflicts with the City's fiscal authorities over current and capital expenditures, particularly with regard to the location, size, and priority of school buildings; the approval of contracts under \$10,000; the separation of the general and special school funds; and similar matters mentioned in the Strayer-Yavner Reports.

(5) The Board of Education should be given the authority to administer its own budget, in fact as it is in the law. The review of the line-budget should be replaced by a review and examination of the budget as a whole. If the amount requested by the Board of Education proves excessive in the light of requests by other departments and the estimated revenue available, the Board of Education should be directed to reduce its request by the required amount, with the school authorities then being responsible for modifications and realignments within their total budget in the light of contractual obligations and most needed services.

(6) We agree with the consultants that the local school boards should be an important instrument for closer relations between the school and the community; they should represent the educational interests of their respective districts and neighborhoods of the City. The vitalization of these boards should be a challenge to the schools and a source of strength and community sup-

port. At present, the functions of the local school boards are largely administrative and supervisory—functions which should be performed by the professional staff. Accordingly, we recommend that the Board of Education review the composition and functions of the local school boards in line with the consultants' final Report and recent experiments in certain school districts. The new Division of Public Information and Community Relations (see paragraph 16, below) should work closely with the local school boards. We do not concur with the consultants' recommendation that the power of appointment of local school boards be transferred from the Borough Presidents to the Board of Education. Instead, we recommend that appointments to the local school boards by the Borough Presidents be preceded by consultations with appropriate community groups from the respective districts.

### **An Elected Board and Fiscal Independence**

(7) The Mayor's Committee rejects the arguments that an elected school board would be more responsible, more representative, or more "democratic" than one appointed by the Mayor. With an increased number of elective offices, the citizen is likely to know less about the qualifications of the respective candidates. Outstanding men and women would be unwilling to subject themselves to the effort, cost, and possible abuse involved in campaigning for election to the Board of Education. We favor the short ballot and fixing responsibility for the appointment of highly qualified persons upon the chief executive of the City. Furthermore, we are opposed to endowing by law private organizations with the power to nominate for public office. We therefore



recommend the continuation of a Board of Education appointed by the Mayor, with men and women selected on the basis of outstanding civic experience and interest in public education.

(8) As an aid in making appointments to the Board of Education, we recommend that the Mayor designate an Advisory Committee, representing appropriate community groups charged with drawing up a panel of available candidates of high caliber.

(9) The Mayor's Committee believes that fiscal independence, involving as it does a drastic change in the structure of the municipal government, would not necessarily result in a greater share of the local tax money for education, nor would it resolve the fiscal competition between education and other functions of the City. The conflict would be shifted from the municipal to the state level, with no assurance that the problems of New York's schools would be better dealt with in the process of arbitration. The imposition of another taxing authority would only add to the complexity of the City's fiscal structure; the taxes for both the schools and the municipality would still come out of the pockets of the same citizens.

We hold that the size and complexity of the metropolitan community call for one centralized fiscal authority to weigh the comparative needs of different departments, and to bring them into reasonable balance. We therefore recommend rejection of the proposal of fiscal independence for education in the City of New York. While we recognize that school management is hampered by the failure to establish a proper working relationship between the Board of Education and the City's fiscal agencies, we believe that these management problems can be solved through adminis-

trative changes, as indicated below, without the drastic step of divorcement implicit in fiscal independence. However, should the administrative changes we have recommended fail to remedy the situation, the proposal of fiscal independence for education would have to be re-examined.

### **Top Executive Staff**

(10) The Mayor's Committee endorses the recommendation of the Interim Report for the immediate creation of three top deputies for the Superintendent of Schools—one for education, one for housing, and one for business administration. For these three positions we accept the titles suggested by the Board of Education, namely Deputy Superintendent of Schools, Administrator of Housing Affairs, and Administrator of Business Affairs. We recommend that these three officers be appointed by the Superintendent of Schools, on approval of the Board of Education. The qualifications of the deputy for education should be the same as those of the Superintendent, while the two administrators should be in the non-competitive class of the Civil Service, with qualifications which stress administrative experience and competence as well as technical knowledge and experience appropriate to their assignments.

(11) We suggest that the salaries of the three new officers be placed at not less than the salaries of associate superintendents of schools and not more than the amount paid to the Superintendent of Schools. A rate of \$25,000 per year seems to us not unreasonable.

### **Controversy over Construction of Specific Schools**

(12) We have taken note of the controversial recommendations with respect



to certain schools advanced by the consultants, especially in the Interim Report, as well as the points in opposition made to us by the Bureau of the Budget and the Board of Education (which were also at variance with each other). We take the position that the Mayor's Committee should not pass upon the pros and cons of specific schools, but we do find that adequate organization and procedure do not now exist to assure that sound decisions of this sort will be arrived at. Accordingly, we recommend that the Board of Education re-examine its original conclusions with respect to the specific schools mentioned in the light of the recommendations of the consultants where contracts have not already been let, and that it then work out a revised program with the Bureau of the Budget on those schools with respect to which *immediate action* must be taken. However, we strongly recommend that decisions as to new construction be deferred wherever possible, pending the development of a greatly strengthened planning organization under the to-be-appointed Administrator for Housing Affairs (see paragraph 26 below).

### **Office of the Deputy Superintendent for Education**

(13) We find that the chief difference between the existing plans of organization and those recommended by the consultants concerning the eight associate superintendents is that the present eight divisions are concerned largely with school levels (elementary schools, junior high schools, vocational high schools, and academic high schools), while the recommended organization is based entirely upon the services performed, such as "instruction," "research," "school organization," etc. Thus "functional organization" is substituted

for the present organization based largely on "school levels." The chief argument in favor of the change is that schooling should be viewed as a continuing process from kindergarten through high school, and that it is no longer justified to break up education into sections based primarily upon age groupings. We endorse the consultants' thesis as to the inseparability of the education process but we fear the dislocation that would result from so drastic a reorganization. Gradual changes therefore are recommended.

(14) We recommend the *immediate* consolidation of the Academic High Schools and Vocational High Schools into one division under one associate superintendent as called for by the consultants, and we urge that steps be taken toward the administrative consolidation of the Junior High School Division either with the Elementary or with the Senior High School Division. The present Divisions of Curriculum, Child Welfare, and Personnel should be retained as now constituted.

(15) We recommend the establishment of a Division of School and District Organization as suggested by the consultants. The division will be responsible for developing a system of pupil accounting by school and by district and for processing the necessary data on daily registration and attendance. The associate superintendent in charge of this division should work in close co-operation with the office of Housing Administration on all matters pertaining to the programing of school building construction along the lines indicated in the consultants' Interim Report. The division should re-examine the boundaries of local school board districts (which have not been revised during the past 31 years).



(16) We find that "Headquarters" of the school system sometimes appears to be remote from the individual districts and schools, and that there is need for a two-way program of information to interpret the aims and problems of the school system to the public and to bring back to the School Headquarters the attitudes and wishes of the parents and interested organizations in the various parts of the City. In line with these findings, we recommend the establishment of a Division of Public Information and Community Relations. Within each school district, this division should develop a program of co-operation between the school staff and the local school board, parent groups, and other public spirited citizens.

(17) The consultants recommend the centralization of research into one division. However, there are numerous research programs in the school system, covering appraisal of educational methods and materials, psychological and educational testing programs, preparation of the curriculum, administrative and budgetary matters, problems of the Board of Examiners, management of supply operations, and the architectural design of school buildings. We do not believe that consolidation of these programs and their separation from operating divisions would be consistent with the best functional organization, and therefore recommend no immediate change in the present organization of research programs. When the proposed recommendations for top level organization are implemented, the problem of the organization of research should be re-examined.

(18) In view of the diversity of programs under the Division of Child Welfare, the consultants recommend the establishment of a new Division of

Special Services to include the Bureau of Attendance, the health program, Civil Defense activities, etc. While we concur with the general principle of a reasonably even distribution of responsibilities among the divisions, we question the recommended establishment of a catch-all Division of Special Services. One of the programs of the Division of Child Welfare, the Child Guidance Bureau, is now undergoing intensive study. The rearrangement of the division should be based upon the findings of such surveys, going beyond the problems of management. We therefore recommend that the reorganization of the Child Welfare Division and the possible setting-up of a new division should be postponed until further review of the programs now grouped under Child Welfare.

(19) Health examinations and other health services are provided in the schools by Health Department personnel, with provision for them in the budget of the Health Department. The consultants recommend that responsibility for the health program be transferred from the Health Department to the schools. The recommendation has been questioned on the ground that the health program falls more logically within the purview of the Health Department. Furthermore, the State reimburses the Health Department for one-half the cost of this program, and legislation would be required to continue the State aid if the program were transferred to the schools. We therefore recommend that the health program in the schools remain the responsibility of the Health Department.

### **Jurisdiction Over Nonteaching Personnel**

(20) The consultants recommend that the administration of nonteaching per-



sonnel be added to the responsibility of the associate superintendent in charge of personnel. While there are differences in regulations governing the teaching staff and Civil Service employees, we concur in the view that the present allocation of jurisdiction over nonteaching personnel is unsatisfactory, and we call for the Board of Education to review the problem so that the personnel function may be assigned to the proper place in the administrative organization.

(21) We recommend that assignments of educational personnel to nonteaching jobs at Headquarters should be made only where the job requires certain pedagogical qualifications and that they should extend for limited periods of time. If such assignments to Headquarters are to serve as a form of internship, the selection should be on the basis of merit.

(22) We recommend the improvement of the facilities and staff of the Board of Examiners and the provision for research for validating new test materials and expediting examining procedures. In the future selection of examiners, additional attention should be given by the Civil Service Commission to competence in the field of personality assessment. We recommend also the codification of the Board of Examiners bylaws; the Board of Education and the Superintendent of Schools should act upon all bylaws of the Board of Examiners except those relating to technical aspects of examinations.

### Office of Housing Administration

(23) While the Committee notes that the Board of Education has already adopted the top organization recommendations growing out of the Interim Report of the consultants, certain top

administrative posts called for in that reorganization have not yet been filled at this writing. We recommend that action be taken immediately on the appointment of an executive of proven competence and extensive practical experience for the important post of Administrator of Housing. It is emphasized that this executive need not be an educator.

(24) We recommend the organization of the following three bureaus in the Office of Housing, as called for in the consultants' Interim and final Reports: (1) a Bureau of Programing; (2) a Bureau of Construction and Contract Repairs; and (3) a Bureau of Plant Operation and Maintenance. With respect to the consultants' recommendation for a bureau devoted solely to matters of administration in the Office of Housing, we feel that this function should be part of the Administrator's Office and that no separate bureau is required.

(25) Development of the Bureau of Programing should be undertaken immediately, in view of the criticism which has been directed at the weaknesses of the school construction program. Bureau of the Budget approval should be given for the creation of the position of Director of Programing without waiting for a complete organizational and budgetary plan for the bureau. The Director of Programing should then proceed with the formulation of organization and procedures along the lines recommended in the final Report calling for a School Population Analysis Unit and a School Facilities Analysis Unit. The latter should provide liaison with the Bureau of Construction and Contract Repairs on new developments in school construction, as well as general liaison with the City



Planning Commission and the offices of the Borough Presidents. It has been suggested that the Bureau of Programming be part of the proposed Division of School and District Organization. This would tend to throw the emphasis on the educational aspects of school housing rather than on the engineering aspects. While both phases must be kept in proper balance, the vitally important matter for the next ten years is the development of a unified program. The place of such a bureau in the administrative organization can be determined later.

(26) Attention is called to the findings in the final Report with respect to the underutilization of existing schools and the inadequate planning for new schools. The construction of new facilities should be preceded by a thorough examination of the possibilities of modernization, repair, conversion, reallocation of space, redistricting of school boundaries, and greater use of transportation by pupils of upper grades. We also underscore the need for precise statistical information on present and future school population and the development of realistic formulas on school capacity. In this whole matter we urge the development of a long-range program of construction and recommend that area studies similar to the one outlined for East Harlem be conducted on a continuing basis by the staff of the proposed Bureau of Programming.

(27) With respect to the Bureau of Construction and Contract Repairs, we are pleased to note that in accordance with our previous recommendations a competent and experienced executive has been brought in to reorganize and expedite the work as "Co-ordinator of School Construction." We recommend that the development of staff and

procedures be formalized, and that a permanent director for the bureau be appointed as soon as possible to carry on the work of the present temporary Co-ordinator of School Construction.

(28) We underscore the findings regarding the need for construction control, adequate inspection, and procedures for remedying defects and deficiencies in new schools as indicated in the final Report. We note progress has been made in correcting many of the adverse conditions by the Co-ordinator of School Construction within the limitations presently imposed upon him. Attention is called to the seven specific recommendations in the Interim Report on control of the building program calling for central progress charts, dissemination of progress information, scheduled dates for key control points, manual of procedures, and a control unit in the office of the Administrator of Housing. We also commend for serious consideration the specific procedural recommendations in the final Report concerning complaints during the one-year guarantee period, and to the eight procedural improvements regarding the handling of change orders with contractors. To expedite its work, the Bureau of Construction and Contract Repairs should be permitted to negotiate contracts up to \$2,500, so that adequate boring tests on sites can be made expeditiously.

(29) We endorse the concept of flexibility in architecture, so that schools designed for a certain need can be accommodated to changing requirements as the make-up of a neighborhood changes. An attempt should also be made to develop standard plans for such units as classrooms, shops, auditoriums, etc., to be assembled with appropriate foundation plans. We endorse



the recommendation that a set of written rules governing the building of schools be prepared, written in language familiar to the engineering and construction industry but explaining fundamental educational objectives. We also concur with the recommended use of outside architects to expedite the building program, noting the advantages with respect to stimulation of new ideas and establishing cost comparisons with the bureau's own architectural work. However, the Report suggests that such outside architectural service be reserved for peak construction periods.

(30) The Mayor's Committee is gratified that in accordance with its previous recommendations a Director of Plant Operation and Maintenance has been appointed. We are mindful that the details of organization are still to be worked out. However, we call attention to the consultants' comments with respect to "red tape" and paper work, and suggest that remedial measures be worked out with the aid of the methods and procedural analysts of the Office of Business Affairs. Attention is called to the 15 steps for improved maintenance advocated in the Interim Report and to the detailed reports on inadequacies and delays presented in the same Report. We endorse in principle the recommendations of the Interim Report regarding detailed repair shop reorganization. A basic conclusion of the Committee is that the school plant requires much more maintenance repair work which could be done substantially with existing maintenance personnel.

(31) We take cognizance of the extensive delays resulting from improper co-ordination between the Board of Education and the offices of the Corporation Counsel as to what constitutes an emergency in the handling of repairs

without competitive bidding and we recommend that the Board take the initiative in investigating this matter and working out a proper procedure with the Corporation Counsel.

(32) We recognize that differences of opinion exist with respect to the basic policy as to whether the custodial service should be in the direct Civil Service system, or should be a purely contractual system; and if contractual, how the various parts of the work should be divided to conform with the best business practices. We are convinced that the present system is definitely not satisfactory, and that the Director should be given a free hand to experiment with various other methods and arrangements. We call attention to the subsidiary recommendations in the final Report regarding standards and measurements of performance, incentives, and the revision of the book of rules and regulations with respect to maintenance. We endorse the recommendation that the principal should have the responsibility of evaluating the effectiveness of the custodian's work.

### Office of Business Affairs

(33) While the Board of Education has already adopted the top organizational recommendations made in paragraph 10 above, Budget Bureau and Board of Estimate action is still required in order for the Board to move forward on the appointment of the Administrator of the Office of Business Affairs. The necessary action should be taken forthwith regarding the appointment of an administrator of proven competence to this important post. It is emphasized that the incumbent need not necessarily be a professional educator.\*

\*ED. NOTE: Since this action was taken, the position of Administrator of the Office of Business Affairs has been provided for in the 1952-53 budget.



(34) We recognize that detailed organization of the Office of Business Affairs must be worked out by the new administrator and the Superintendent of Schools. However, we recommend the organizational pattern developed by the consultants calling for three major bureaus: (1) the Bureau of Finance; (2) the Bureau of Supplies; and (3) the Bureau of School Lunches.

(35) We endorse the recommendations for centralization and mechanization of payroll preparation and auditing, noting that some payrolls processed through the Bureau of Finance have already been mechanized and that agreement was reached with the consultants, as a result of a co-operative study, regarding the feasibility of the central preparation and mechanization of all payrolls. Further development and installation should be pushed forward with vigor by the Administrator of Business Affairs.

(36) In the Bureau of Supplies, the consultants found that an excellent administrative job is being done "despite the many handicaps created by oppressive procedures and regulations initiated elsewhere" and that "the bureau is struggling with virtually impossible demands caused by lack of effective centralized management and co-ordination." We recommend the establishment of a Committee on Supply Standardization to deal with the control of listings and the reduction of non-list requisitions. (A representative of the Superintendent of Schools, the Auditor, a member of the Board, and the Superintendent of School Supplies might serve as members of that committee.) Procedures should be changed regarding the processing of vendors' invoices to eliminate duplication and reduce the time required to get invoices to the

Comptroller for payment. A control-methods analysis unit should be established in the Bureau of Supplies.

(37) We endorse the recommendations that State legislation should be enacted raising from \$1,000 to \$2,500 the level at which the Board of Education must purchase under formal contract, and that authority should be given to the Superintendent of School Supplies to enter into such contracts for the Board of Education. However, with respect to the recommendation that single orders be placed with a single vendor without competition up to \$50, the Mayor's Committee, while cognizant of the advantages with respect to elimination of delays and costly clerical procedures and of the fact that inflation has made it desirable to raise the authorized limit, recommends that this move await the improved supervision and controls to be brought about by the strengthened administrative organization.

(38) We concur with the finding that the school bus transportation service should remain in the Bureau of Supplies. We note that New York City's program of school bus transportation for elementary schools is liberal and we endorse the suggestion in the final Report that information outlining the program policies, the reasons behind them, and the channels for transmitting complaints be distributed to schools and parents' groups. A manual should be prepared on the bus program and on improving the system of controls and reports.

(39) With respect to school lunches, we note the favorable findings as to the efficiency of the program in the elementary schools, but call attention to the needed improvements in the high school cafeterias. We endorse the recommendations on the central purchasing



of non-perishables, the spending by each cafeteria up to \$500 annually for urgent repairs, and the purchasing through special procedures of cafeteria equipment in amounts not to exceed \$500 annually. We recognize that the school lunch program has some educational aspects going beyond those of business management, and that liaison should be established with the office of the Deputy Superintendent for Education.

(40) The high school cafeterias should not be operated as self-contained units. Each school should be allowed to retain two allowances out of its surplus—a working capital allowance computed under present formula and an allowance for the school's own equipment not to exceed the working capital allowance. Any remainder should be shared through a common fund.

(41) The Bureau of Finance should include a Division of Management and Fiscal Control as outlined in the final Report to deal with budget estimating and analysis. The consultants' recommendations go beyond proposals already made by the Auditor for a special unit to conduct studies on management practices. However, under the organization recommended, some personnel needs could be met by transfers from the present Bureau of Administrative and Budgetary Research.

(42) We recommend the establishment of a Division of Office Services responsible directly to the Administrator of Business Affairs. We endorse the program of records management and recommend the formation of a Records Management Committee whose members would be thoroughly familiar with the records of the school system and one of whose number should be the Law Secretary of the Board.

## The Board of Higher Education

(43) We find that the size of the Board of Higher Education is unwieldy, that Board members are engaged in administrative detail instead of devoting themselves to policy-making, and that its sub-division into six standing committees creates confusion and represents an unmanageable organization. We recommend that membership on the Board of Higher Education be reduced to nine, as indicated in the final Report. The extent and manner of the reduction and reorganization should be determined by a Joint Committee of the Board of Higher Education and the State University. Provision should be made for State representation if appropriate State support is provided. We also recommend that the Board confine itself to policy-making and divest itself of administrative detail. Special committees should be appointed for dealing with particular problems, but these should be discharged when their task is completed. The Board should function as a Committee of the Whole and seek to reduce and eventually eliminate its standing committees along the lines recommended in the final Report.

(44) We recommend the establishment of the position of Chancellor with responsibility and authority for coordination of the entire system of higher education and the centralization of fiscal control. We agree with the consultants that the highest type of man should be secured for the chancellorship, and that his function is not to replace able presidents in the leadership of the separate colleges. However, if common decisions are to be reached for the solution of common problems, the Chancellor must have the authority to execute them, and this power should be indicated in the bylaws. The Chan-



cellor should be elected by the Board of Higher Education.

(45) We concur with the recommendations of the consultants that the colleges be freed from the restrictions of the line-item budget, and that they be permitted to set up their budget on a functional or program basis,\* subject, of course, to post-audit of their accounts by the Comptroller. Where reductions are required, they should be made in the budget as a whole. The responsibility for specific curtailments when necessary should be left with the Board of Higher Education.

(46) The Mayor's Committee recommends that the State immediately accept some responsibility for the support of the City's post-secondary school program as it does for the communities in the rest of the State. The appropriate share to be borne by the State and the question of incorporation into the State University should be explored by a Joint Committee of the Board of

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\*ED. NOTE: See p. 489. The consultants urge that the colleges be permitted to maintain their accounts in such form as recommended by the National Committee on Standard Reports for Institutions of Higher Education.

Higher Education and the Trustees of the State University.

(47) The consultants make recommendations concerning the expansion of existing facilities of the colleges, the establishment of a community college in Staten Island, and increasing the number of technical institutes for terminal education. We endorse these recommendations in principle but feel that such expansion should await the adjustment of the questions regarding State subsidy or transfer of the colleges to the State University as indicated in paragraph 46 above.

(48) In making these recommendations, the Mayor's Committee acknowledges the work of the New York State Commission on School Buildings, Lieutenant Governor Frank C. Moore, Chairman, and of Lieutenant Governor Moore's Committee on Constitutional Tax and Debt Limitations and City School Fiscal Relations. Both of these agencies have been considering the complex problems of education in New York City and have made important and constructive recommendations on these matters.

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## CHAPTER XIV

# Welfare

### EDITORIAL NOTE

Five Reports made under the direction of the Mayor's Committee are devoted to the Department of Welfare. In addition, Section XIV of the Barrington study on office mechanization in selected City departments covers the Department of Welfare. The Reports are as follows:

(1) "Recommendations for Simplifying and Measuring Work of the Social Investigator," by McKinsey & Company, July, 1951.

(2) "Study of Medical Care Services in the Department of Welfare of the City of New York," by American Public Health Association, Inc., April, 1952.

(3) "Administrative Decentralization in the Department of Welfare, City of New York," by Public Administration Service, November 29, 1951.

(4) "Financial and Accounting Policies and Procedures of the Department of Welfare, City of New York," by Crafts, Carr & Donaldson, October 31, 1951.

(5) "Intergovernmental Relations in Welfare Administration," by Institute of Public Administration, April, 1952.

(6) "Survey of Office Mechanization in Selected Major Departments," by Barrington Associates, Inc., October 25, 1951.



The Reports are listed above in the order in which it proved most logical for the Committee to consider them, disposing first of matters having to do with procedures and routines, and with certain special medical services; progressing to considerations of important departmental policy matters, such as reorganization and decentralization; and finally coming to matters of basic welfare administration, involving relationships with other governmental bodies, City fiscal policy, and the like.

All the Reports are digested here with the exception of No. 6, which is found in Chapter IX.

While each Report has a central target at which it shoots, there are necessarily areas of overlap, since none of the issues can be discussed in a vacuum. Thus the McKinsey discussion of the work of the social investigator touches upon questions of departmental decentralization and State regulations and the Melrose machine installation. The APHA Report on medical services discusses the effects of some of the PAS recommendations on decentralization. The PAS Report on departmental decentralization touches upon "interference" by the State, relations with other City agencies, etc., and upon the machine installation in the Melrose Center. The latter, of course, is discussed in some detail by the Crafts, Carr & Donaldson and the Barrington Reports. And the Crafts, Carr & Donaldson Report and the Institute of Public Administration Report are both very much concerned with State and Federal relationships.

It can be said at the outset that there is no basic conflict among the Reports, aside from questions of high policy regarding intergovernmental relationships. On that issue a strong recommendation by Crafts, Carr & Donaldson, presented as a preferred alternative, poses a different solution from that advocated by the Institute of Public Administration. There are no differences on procedural recommendations, including the machine installation at Melrose. Nor is there a basic conflict on departmental organization.

The feasibility of applying *work measurement* to the social investigator's job was one of the prime reasons for undertaking the McKinsey & Company study. A complete program involving statistically adequate time studies and actual setting of standards was not contemplated—rather, it was desired to determine



whether such techniques are possible in work of this sort, and if so, to outline a way to apply them.

The bulk of the Crafts, Carr & Donaldson Report, which runs over 350 pages, is given over to procedural matters in finance and accounting. It sets forth in meticulous detail the various routines and procedures employed, the reasons for them if determinable, and their apparent weaknesses and inefficiencies. So much of the Report is devoted to this necessary background, which leads up to and gives support for the conclusions and recommendations, that digesting this technical material with all its complexities would not be practicable. Therefore it is the conclusions and recommendations flowing therefrom that are stressed in the digest.

This Report devotes major attention to the broad view of welfare as a national policy in which the Federal, State, and local governments all play varying parts and assume the initial responsibilities, the management, standard setting, and financial burdens in different degrees, even state by state. This analysis is concisely presented and illustrated in 52 pages of double space typewriting and attempting to digest it herein destroys to some extent its forcefulness and logic. It is urged that those with special interest in the subject read *in toto* Section II of the Report itself.

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## SECTION 1

# THE SOCIAL INVESTIGATOR

BY

McKINSEY & COMPANY

This study has been focused on the activities of the social investigator. It

Digest from "Recommendations for Simplifying and Measuring the Work of the Social Investigator," by McKinsey & Company, July, 1951.

is concerned with one question: How can the social investigator serve his "clients"—the recipients of Department of Welfare assistance—and the City more effectively?



To develop, within our time budget, a composite picture of the social investigator and his case unit, we decided on an intensive study of a limited number of welfare centers. The Department selected three—East End, Queens, and Melrose—as being representative of the areas it serves and the problems it faces. These welfare centers gave us an adequate opportunity to observe the procedures used in all centers and the basic welfare problems which confront all centers.

In each welfare center we studied several case organizational units; accompanied case workers on representative field visits; observed their clerical work and reviewed it with them, the unit supervisors, and the unit clerks; and reviewed our findings with unit supervisors and welfare center administrators.

Our conclusions were further discussed with central office administrators and the State Department of Social Welfare.

## RECOMMENDED ORGANIZATION CHANGES

The job of the social investigator is twofold: (1) he determines the eligibility of a client with the thoroughness required by regulation and by the demands of the individual case; and (2) he renders counsel and such other assistance as will rehabilitate the client to his own and the public's benefit.

The social investigator makes the basic decisions, and the effectiveness of public assistance depends on his skill. Since primary responsibility rests with him, he should have the necessary authority to make decisions and take action on them.

### Developing the Social Investigator

In filling more responsible jobs, the principle of promotion from within should be retained in practice. Two alternative paths of progress should, however, be open to a social investigator, depending on the type of skill he possesses—an administrative path and a path that continues to involve field work. At present the only regular path of progress is the administrative one.

We recommend a second Civil Service grade for social investigators. Qualifica-

tions for this grade should be sufficiently restrictive so that such factors as length of tenure will not result in automatic attainment of the grade. Then the social worker who has demonstrated outstanding ability in field work can be promoted just as the worker with administrative ability is. The higher classification of field worker can be assigned the more difficult cases.

Establishment of the second grade implies no basic change in the case unit structure but only in the awarding of financial and other recognition. Those social investigators who demonstrate administrative ability should be the pool from which case unit supervisors are obtained.

**Centralized Training**—Every social investigator goes through a course at the Department's Training Institute before actually working in his case unit. The Department has also recently inaugurated a "refresher program," which is standard for all experienced social investigators. Our limited observation of this centralized training suggests that it is soundly conceived and contributes to the efficiency of the Department.



**On-the-Job Training**—The major portion of what the social investigator learns will always be learned on the job. His unit supervisor, being responsible for on-the-job training, must be carefully selected. It is important that the supervisor devote sufficient time to the continued training of both new and old investigators.

During at least the first four months after a new worker joins a unit, the supervisor should organize the conduct of each case with the worker before he leaves for the field. The supervisor should then review the new worker's case activity with him weekly. This same sort of review should also be scheduled with more experienced workers. Procedural and organizational changes still to be discussed will release more time for the unit supervisor to concentrate on this important training function.

Two other suggestions should be adopted to insure more rapid orientation of the trainee to his job: an *Operations Manual*—a book containing brief instructions on how to fill out the forms and perform other parts of the job—and an *Index to Procedures* should be developed. The Department's procedures manual has good coverage; however, it is difficult for the social investigator to locate specific information in the procedure books. The index needs to be completely revised in a simplified subject grouping. When this is completed, more copies should be available for quick references.

**Experience**—Experience on the job increases the skills of the social worker; however, the average length of service of the investigator is short. The Department must undertake a study to discover the real causes behind the ex-

tremely high turnover before any remedial action can be taken.

### The Unit Supervisor

We recommend that the unit supervisor be made more fully responsible for controlling the individual worker's absence, tardiness, and personal time. At present he merely transmits reports on worker activity. Absence, tardiness, and personal time should be recorded but not reported to higher authority except at infrequent intervals (not more often than monthly). In normal circumstances administrative control of such matters should not have to go beyond the welfare center. Similarly, the unit supervisor should be the prime mover in promotions, transfers, and demotions, with assistance from other officials within the welfare center. The central office should not ordinarily act in such matters except, of course, when recruiting for its own staff.

### The Unit Clerk

At present the Department's policy is to assign one unit clerk to each case unit. Actually this goal is not reached in practice. In the Melrose Welfare Center, for example, the 14 unit clerks serve 19 units. Although the difference in actual numbers is slight, the effect on the unit's work is considerable. The lack of one clerk per unit gives rise to two major problems: (1) The unit clerk splits his time between two units to which he is assigned and at the same time handles miscellaneous uncovered case loads. He is therefore not continuously concerned with the problems of any one unit which is exclusively his own. (2) Even when he does spend most of his time with one unit, it is not clear that he is under the direct and complete control of the unit supervisor. As a re-



sult his duties are not clearly defined, his responsibilities are not rigid, and the unit supervisor cannot use him with full effectiveness.

The administrative expense of having one unit clerk for each unit is thoroughly justified. Even where there is an appropriation for one clerk per unit, it has been difficult to maintain complete clerical coverage. When a clerk resigns, requests for replacements are not accepted until any terminal accrued leave is exhausted. Then it takes time for the application to be processed and the replacement to report for duty. After that, there are training problems. The problem of complete coverage of each unit is further complicated by vacations, sick leave, holidays, and other authorized absences. The result has been that the unit frequently does not have competent clerical assistance when needed. Therefore the social investigators perform clerical work in many instances. Clerical staffing should be adequate to cover each unit and allow for normal reserve coverage.

Granted the organizational advantages of one clerk for each unit, the question arises whether the Department has enough work to justify that increase, since the units are currently sharing the clerk's services. The following is our rough estimate of the time spent on various tasks by a unit clerk who divides his week between two units:

(1) *Changing case status*—Altering records and sending out authorizations and other forms to implement case decisions: 11 hours.

(2) *Maintaining case load control within the unit*—Keeping control cards up to date and maintaining tickler files on deadlines:  $1\frac{1}{4}$  hours.

(3) *External control*—Preparing regular and special reports on unit activity:  $5\frac{1}{4}$  hours.

(4) *Checking accuracy*—Arithmetically checking investigators' work and running down discrepancies:  $5\frac{1}{2}$  hours.

(5) *Routine office activity*—Answering phone; controlling the files; and delivering, collecting, and distributing mail and supplies: 10 hours.

(6) *Miscellaneous*—2 hours.

These are necessary activities and only a small portion of them can be cut down. If all the procedural changes recommended were adopted, it is estimated that only an hour or two each week would be eliminated from the unit clerk's job. If, however, the unit clerk could confine himself to one unit, and if his unit supervisor had the time to direct him properly, he could do a good deal more for the social investigator and the supervisor.

## Over-All Organization

In general, the welfare center administrator decides how cases will be assigned to units. Decisions are subject to policy review by the central office.

Whether a center's case work is organized on a geographic or nongeographic basis does not seem to influence greatly the effectiveness of the social investigator. The former involves less transportation time, fewer problems in initial allocation of cases, and the public relations advantage of identifying one worker with one area. The latter does not require constant realignment of districts, affords greater mobility in transferring cases between social investigators, and does not put undue hardship on units dealing with depressed areas. The Department properly leaves it up to the welfare center to select the plan best suited to the characteristics of its own area.

**The Central Office**—The central office has two major functions in relation to



the case unit: (1) policies and procedures, and (2) audit of operations for conformance.

The central office can strengthen its second function. Specifically, a Central Office Procedures Audit Unit might be set up to make regular audits in the welfare centers on adherence to written policy and procedure and recommended procedure changes. It should not, however, be used as a "trouble shooter" or in any way usurp the regular case work responsibility of the case units, nor should its function be confused with that of case review.

**The Borough Office** — The Borough office fulfills no real function from the investigator's viewpoint. If, in its rela-

tion to the case unit, it represents the central office within a limited sphere of responsibility, then it should be delegated full authority within that sphere. At present the Borough office appears to be merely another layer of authority between operations and policy. A written procedure should be drawn up stating exactly what matters the Borough office can decide without reference to the central office.

Our conclusion that the Borough office is superfluous is based only on the relationship of that office to the social investigator's work. Before organizational changes are made, other functional aspects of the Borough office should be considered.

## RECOMMENDED PROCEDURAL CHANGES

### More Time in the Field

At present the average social investigator spends about half of his normal work week in the field—far too little. Some office interviews and certain other office time are more properly classed as field work, but the amount of that time is negligible. The following aids will provide more time, for and better quality of work in the field:

**Organize Before the Visit**—Before he makes his call, the field investigator should:

(1) Have the supervisor brief him on the case. At present, such briefing occurs occasionally rather than invariably, and it is too short and sketchy, owing to other demands on the supervisor's time.

(2) He should consult the Operations Manual and Procedures Index for forms and other instructions with which he is not familiar. A page or two on each of the major forms he

uses should be assembled in a loose-leaf notebook as a forms training manual, and should give him complete information on use. This material should be kept up to date by the Training Section.

(3) Obtain the forms he expects to use during his visit. To simplify this, it is recommended that every office manager designate one person under his supervision to maintain a complete file of active forms for the welfare center, with special arrangements for forms that are used in quantity.

**Review the Case Record**—Too much routine information is copied into the field book. To eliminate this, when the Face Sheet (Form W-42) for a case is first typed, it should be typed in duplicate. The duplicate will then serve as the Face Sheet in the field book. No additional information will have to be transcribed in the field book, except perhaps a few comments from the previous case history.



**Reduce the Number of Visits**—A type of visit that may well be cut in number is the recertification visit. At present, under City and State regulations, a case is recertified every six months except old-age assistance and aid to the blind cases, which are recertified once a year. A thorough, satisfactory recertification normally takes considerably more time than any other type of visit (except a pending) because it is a complete review of all aspects of the case which bear on its eligibility.

The present frequency of statutory and other visits provides sufficient opportunity for the investigator to cover the major factors actually governing a case's eligibility. Longer recertification cycles would make it easier for the Department to "freeze the cycles" into a visit pattern. There would also be less necessity for making an extra recertification visit; instead, it could coincide with a regular visit. This change, of course, would require approval by the State Department of Social Welfare.

**The Social Investigator in the Office**

The fundamental purpose of a social investigator's office work is to determine and authorize eligibility of a case for public assistance in certain specified amounts. Time spent on other activities should be redirected in so far as possible.

In a scheduled work week of 35 hours, we estimate that the case worker spends about 20 hours in the office. (Furthermore, overtime, if any, is spent on office work.) The following is our rough estimate of how these 20 hours are broken down by type of work in a typical week.

The first four types of work below are essential to the pursuit of the worker's main tasks. Time spent on conferences and training will be ex-

Type of Work	Present Hours per Week	Could Be Decreased to Following Hours per Week
Conferences and training.....	1.8	*
Case writing — preparation and dictation .....	4.6	3.6
Letters establishing eligibility	2.4	2.0
Budget work .....	2.4	2.0
Processing case status.....	1.8	0.8
Securing higher approval.....	1.8	0.4
Emergency activity .....	3.4	2.0
Administrative and miscellaneous .....	1.8	0.8
Total .....	20.0	11.6*

\*The amount of time that should be devoted to "Conference and Training" is not included because it cannot be determined at present.

panded as discussed earlier. The last four types of work are in part nonessential and should be minimized to the greatest extent possible. We estimate the social investigator can cut his routine desk work almost in half.

**Case Writing**—The skilled social investigator is best able to record significant case information in narrative form, and it would be unwise to develop a detailed check-off form for this purpose.

As it appears in case folders today, however, the present History Record, Form W-25, is weighty and lengthy. To correct this, a rigid "rule of exception" should be applied to all entries. After the original write-up, subsequent information should be entered only to reflect a *change* in conditions. This is present Department policy, but it needs to be emphatically restated. Although the guide to filling out the form lists *all* the various categories of information to be covered in the interview, it should be made clear that an entry does not necessarily have to be made for each category at the time of each write-up.

**Letters Establishing Eligibility** — The Department wisely uses form letters



for establishing eligibility. Although the possibility of saving time is small, two steps can be taken to reduce the work somewhat:

(1) The Department should contact each City or State agency to which letters are addressed to see whether the information cannot be transmitted by telephone or in fewer copies. Fewer copies would save time for both the investigators and the typists. In many instances, lack of familiarity with written procedure is responsible for the excessive number of copies prepared.

(2) The social investigator should be able, at his discretion, to have routine letters prepared by the unit clerk or the service units.

**Budget Work**—Budget computation\* is one of the essentials of fair distribution of public assistance and must be done by the social investigator. The present method of recording budgets on the Budget and Social Data Record (Form PA-15) is, however, deficient in two respects: (1) social data are unnecessarily repeated on what should be a strictly financial record, since these data appear in the case folder; and (2) budgeted amounts on the PA-15 should be single, consolidated totals instead of the itemized amounts appearing at present.

Budgeted amounts should be drawn from a series of prepared tables, thereby freeing the investigator of any computation on individual budgets except where special grants must be added. The tables might not cover all conceivable cases, but they could at least cover the vast majority of them. They should be prepared on a per-person basis, which would eliminate the lengthy prep-

aration involved in composite budgeting. Mass rebudgeting would also be simplified. Much of the tediousness of mass rebudgeting by hand could also be relieved by the proper use of IBM.

### Activities to Be Reduced or Eliminated

Work can be reduced or eliminated in the following areas: (1) the case folder; (2) reauthorization; (3) obtaining of higher approval; (4) explanatory memoranda; and (5) statistical reports of activity on client work.

**The Case Folder**—The case folder must contain initially gathered information; a basic, definitive, and somewhat detailed record of history and action; and certain vital evidence. The Department has recently developed a well-thought-out program to reconstruct the case folder. This program should be adopted as soon as possible, with certain suggested additions or changes, as indicated below:

(1) Documents should be clipped into the case folder in a rigidly prescribed sequence.

(2) Application and Intake Interview Forms should be condensed and combined.

(3) To highlight the significant aspects of a case and to insure that the History Sheet (Form W-25) will be read with more attention, all non-essential documents should be removed from the folder and either filed separately or destroyed. Material placed in a separate reference file should be noted on the inside cover of the case folder.

(4) According to the Department's present plan, the reconstructed folder will contain an index sheet summarizing the action taken and showing where further documentation can be found. The difficulty of filling out this sheet outweighs its advantage as an index, particularly in a reconstructed folder, and instead of being a useful

\*ED. NOTE: These remarks refer to the basing of assistance on standardized budget allowances, and not to departmental budget preparation as discussed in other Mayor's Committee Reports.



action summary, it may prove to be a decided liability. Since the code to be used on the index sheet will not supply much essential detail information, there is a danger that decisions will be based on the summary of possibly misleading information and not on the whole climate and background of the case, which can be read only in the basic narrative. The index should give only what is in the folder and in other reference folders. An index of qualitative information is unadvisable.

**Reauthorization**—Under present City-State requirements, regular, recurring grants must be reauthorized at least once a year. For example, if an authorization is first issued in January and there are budget changes in August and October, the grant must be reauthorized the following October. In the same example, some welfare centers have been interpreting the ruling to mean that reauthorization is required the following January. Both this interpretation and the ruling itself are unnecessary and should be changed.

Regular, recurring authorizations should run undisturbed until altered by a budget change or stop authorization. Requirements on special grants and the authorizations for them need not be limited to a one-month effectiveness but can be altered so that they remain in effect for two or more months as the type of aid and circumstances of a case require.

**Obtaining Higher Approval**—At present any nonroutine cases must be forwarded to someone within, and more often above, the welfare center for approval. From this practice has evolved so long a set of confining rules that now even very slight exceptions require higher approval.

This whole trend should be reversed. Whether consultation on difficult cases

is needed must, practicably, be decided by the social investigator and his unit supervisor rather than made the subject of a rule. Approvals required in the Levels of Approval in the Department Policy Manual should be drastically reduced. The social investigator should seldom have to go beyond the welfare center for approval. This would in no way limit the activities of case consultation and other central office services. On the contrary, it would make them more meaningful, since specialists would be asked to concentrate only on special cases.

**Explanatory Memorandum**—The reins of authority are held too tightly in matters of determining case priority and writing memoranda. The following are examples:

(1) The short length of time a social worker is given to meet a State Fair Hearings Report deadline upsets his schedule out of all proportion to the time spent on it. Both the State and the Department should expedite requests to social workers so that, where possible, the field investigation can coincide with the next statutory visit. At least 30 days should be available for field work and, in complicated cases, the State should be asked for a time extension.

(2) Priority in all but the most extraordinary cases should be set by the case unit. Where priorities must be established by the central office, an explanation of the reasons for them will do much to gain the wholehearted understanding and co-operation of the workers.

(3) Excessive memoranda are written from units in the welfare center to the central office, discussing circumstances of case actions. To cut down this volume, the basic case folder should be forwarded frequently to the central office unit concerned. This file should be stamped with a mutually acceptable return date. Since files are now routed quite freely



within the welfare center, there should be no objection to sending them to the central office.

The method of filing case folders should be changed from numerical filing to filing by case name, since cases are ordinarily referred to by name. The possibility of errors in transcription is also lessened. A quick reference by case number is readily available on the Case Load Control Card.

**Statistical Reports of Activity**—At present the case unit must submit many statistical reports within and outside the welfare center. The Department's goal should be two comprehensive reports:

(1) *Summary of Worker Activity*—This function is served by Form 712B, "Unit-Welfare Center Recapitulation of Investigator Work Sheets," which should be continued with revisions. The 712B at present records time and is an administrative control. These functions should be split and the administrative control aspects of the 712B thus simplified. It should not be regularly distributed at a level higher than the unit. It should, however, always be available within the unit for tabulation or inspection as required.

Form 712A, "Monthly Recapitulation of Investigator's Work Sheets," is unnecessary and should be discontinued.

(2) *Report on Case Progress*—Form W-124, "Weekly Case Load Analysis," is a useful tool for this purpose. It should be expanded so that it is the only form necessary. It seems advisable to continue temporarily Form 267-C, "Status of Pendings," to provide a special check. Eventually this can be incorporated into the W-124. Reporting all nonrecurring grant cases on Form 267-D, "Report of W-651 Cases," is unnecessary and should be discontinued.

Only those cases which are two full cycles overdue should be reported.

Workers should prepare their own expense reports for the approval of the unit supervisor and a person designated by the office manager.

**General Comments**—Requirements for regular statistical reports on future planned activity and past historical activity should also be eliminated. Past information is available in past reports, and future activity cannot be forecast with accuracy.

A definite time schedule should be established for all necessary reports. At present many reports are prepared only when requested. The reports should be exclusively statistical. The number of unvisited statutes, for example, should be reported, but no attempt should be made to explain why they were not visited. Such reasons are either superfluous or unsatisfactory, and if unsatisfactory, they must always be supplemented by telephone explanations.

### Activities to Be Mechanized

A limited application of IBM is being tested at the Melrose Welfare Center. At present it is largely confined to disbursement activities and as such only indirectly affects the work of the social investigator. The principal change is the substitution of an IBM card on which only one entry, the budget amount, need be made for the present "Authorization" (Form 650). We approve of this use of IBM in all welfare centers.

In addition to this application, IBM can eventually be extended to these other disbursement procedures:

(1) The authorization for a single issue payment can be made by IBM card just as is contemplated for a regular payment. Thus the IBM card can replace Form 651, "Single Issue Auth-



orization." This will eliminate the necessity of redesignating Form 649 "Single Issue Payments Record," and using it as an authorization.

Under the present proposal Form 651 is eliminated and an IBM card becomes the basic authorization. When the basic authorization is changed, a new IBM card is substituted. We propose that Form 651 be eliminated and an IBM card used. It will not replace the basic authorization but merely be a supplementary card, to be removed when it expires. Mechanically, no problems exist in having the basic authorization card carry along with it any number of supplementary cards.

(2) Manual mass rebudgeting can be eliminated by a simple change in the basic IBM authorization card. Most mass rebudgetings are caused by changes in the food allowance. At the time of authorization, the worker should write on the IBM card the total

budget amount and, in addition, the amount for food. Then mass or rebudgeting caused by a change in the food allowance can be done mechanically. The fact that the case unit has no account of the change on its basic records will not present any problems since a duplicate set of cards with the changed allowance can be reproduced and distributed among the units concerned.

We agree with the Department's program to introduce IBM equipment in a series of programed steps for other applications, unifying the applicability and benefits of each before proceeding to the next. This will cause the least disruption and insure that the soundest procedures are used. However, too much time may be spent in proving out a procedure if action is not taken to push mechanization. Therefore we emphasize that the switch to IBM for disbursing activities in all welfare centers should be expedited according to the schedule outlined.

## WORK MEASUREMENT

A major project for the Department is measurement of the social investigator's work. In the past the Department exchanged information with other cities on how social workers spend their time, and also conducted a limited time-study program. But since New York's welfare problems are unique, it is unwise to rely on a national standard or standards for other sections of the country.

With time standards as a yardstick, the Department can improve its performance in the following activities:

(1) The geographical boundaries of welfare centers can be set to give whatever is considered the most equitable distribution of case loads. The number of case workers needed

within each center can be planned far in advance.

(2) The centers and the Department can improve their scheduling and budgeting of time on special projects, such as a review of "aid to disabled" cases.

(3) The Department will be in a position to document its needs when presenting its budget to the City budget committee.

(4) Social investigators who demonstrate measurably superior performance can become the outstanding candidates for promotion.

### Why Measurement Is Practicable

In reaching the conclusion that case work is measurable, we applied the following tests:



(1) The number of social investigators in the City doing the same sort of work—over 1,700—is sufficiently large to justify a measurement program.

(2) Although it is true that two case situations are rarely exactly alike, the work is standardized to a considerable degree.

(3) Most of the office work is concerned with establishing certain standards of eligibility, and varies little from case to case.

(4) Case work breaks down into a clear sequence of steps.

(5) Units of measurement are available, such as setting up a case and a visit made. It is true, however, that quality cannot be measured practicably.

(6) The case workers we studied appeared conscientious and anxious to maintain high quality, and we do not believe measuring their work will affect quality, particularly since their compensation is not tied directly to quantity of work produced.

### Recommended Program

To measure case work, we recommend a time-study program in which time-study engineers, using a watch, study case workers on the job and establish time values for the elements of the job. Such a program will produce more usable results than “case weights,” which show that one kind of case or visit takes more or less time than another kind of case or visit, but which do not set forth how long the work *should* take. We believe a simple program will produce practical results to meet the Department’s needs. Although the resulting standards will not be exact, they can serve as practicable yardsticks.

Earlier in this Report we recommended changes in policy and procedure to simplify the social investigator’s work. The time-study program

should be held up until these changes have been incorporated in the social worker’s job.

**Organizing a Time-Study Group**—The Department should organize a time-study group of four or five men headed by a supervisor skilled in time-study work. Personnel for the group can be obtained by recruiting experienced time-study engineers outside the Department or by selecting persons within the Department and having them taught time-study techniques by the supervisor, who probably will have to come from outside the Department.

About a month should be devoted to planning the details of the program, training personnel and, if time-study engineers from outside the Department are brought in, familiarizing them with the work of the case investigator.

The actual time studies will take the group about four months to complete. After that period, the group can be reduced to one person, probably the supervisor, who will be responsible for keeping the time-study data up to date and making special studies and analyses.

**Units of Measure to Be Used**—The possible major classifications under which work might be grouped for time-measurement purposes are: (1) setting up a case, and (2) a visit.

Setting up the case involves far more time than making a follow-up visit. As we reach different points in the economic cycle, the number of cases to be set up will diminish or increase. Therefore the work cannot be properly measured unless the two units of measure are used. We realize that the difficulty factors in any one case may make the time required for that case vary considerably from the average. We believe, however, that evaluating the difficulty



factors will demand more time than is justified and that an average time value will serve a practical end.

In defining the two units of measure, all time spent on a case from the moment it comes to the worker's attention until it is declared eligible or not eligible by the unit supervisor should be classed as "set-up" time. After eligibility is established, all time spent preparing for a visit, making a visit, and performing subsequent office work in connection with that visit should be classed as a single visit.

**Making the Time Study**—Times taken on cases should be separated by type of assistance (OAA, AB, ADC, HR, AD, and Composite). This breakdown does not necessarily represent different amounts of time demands or degrees of difficulty. However, cases can be classified by type of assistance with almost no extra work. Furthermore, because of differing legal requirements on frequency of visits, the time requirements for some types of assistance may vary. Examination of the collected time-study data may reveal that all or some types of assistance take about the same length of time in setting up a case or making a typical visit. If this is so, then a common standard should be used.

Sections of the City will differ in complexity of client problems, type of dwelling, and the amount and kind of travel required. After the time studies have been analyzed, it may be necessary to increase the time allowance for such conditions.

The time-study engineers should make studies of average as well as good

workers. They may stay with any one worker for as many days as are needed to collect data on all types of cases on many different kinds of visits. They must, however, collect complete time on case setups.

**Using the Standards** — The Department's best available basis for evaluating the quantity of work handled by an individual person or a group for a period is to compare the total amount of actual time spent with a total standard time. The total standard time can be computed by multiplying the actual number of completed setups and visits by the standard time allowance for each of these units of measure. The variance between this total standard and actual time will provide a rough indicator on the quantitative production of each group.

The standards can be used to determine personnel needs for any anticipated total volume of work during a given period. To do that, the number of new cases during the period must first be forecast. Secondly, the Department must determine how many visits these new cases will generate during the period as well as the number of visits required by continuing cases. Judgment and historical experience, obtainable from the records, should be used to gauge the frequency of visits on any type of case.

When total activity has been forecast, standard unit times can be applied to the setups and visits anticipated to compute total standard time required. From this, personnel needs can be set.

## THE CASE UNIT SUPERVISOR

Present Department policy calls for a case unit to consist of a unit super-

visor, a unit clerk, and eight social investigators. In practice, however,



most units operate with fewer people. Normal absences reduce the staff somewhat; in addition, social investigators' jobs often remain unfilled for long periods. More than this, few units have a full-time unit clerk. The practice is rather for two units to share a clerk. Through all these fluctuations in working personnel, the case load stays the same. On the average, a unit supervisor must direct the conduct of some 600 active cases of his own unit. Occasionally he is required to carry one or more uncovered case loads.

We are not prepared to say how a unit supervisor should proportion his time to the various elements of his job. There are few supporting data from which to draw a conclusion. The job has three important aspects:

(1) *Review of cases*—Each experienced worker has about six cases a week which require review by the unit supervisor. These are cases pending, recertifications, or cases of a special nature. Review of one case seems to take about half an hour at best. This would be a minimum of 24 hours or about  $\frac{2}{3}$  of the supervisor's work week. Actually the supervisor seldom spends this much time on case review.

(2) *Other training of workers*—Present training of case workers is

spotty and not fully effective. The unit supervisor should spend more time on it.

(3) *Administrative and clerical activity*—This segment of the supervisor's job now absorbs too much time.

### Recommended Changes

Many of the recommended organizational and procedural changes will affect the unit supervisor's job and therefore the amount of time he has available. One major effect of these changes will be that the unit supervisor can do his necessary, routine work in about one-third less time. He can use the freed time either to take on and supervise a larger case load for the eight investigators he now has and for additional social investigators that may become part of his unit, or devote more time to thorough supervision of the present case work load.

To determine the effective span of control of the unit supervisor, there must be complete knowledge of the future jobs he is expected to do. The problem is therefore essentially one of job analysis. This cannot be done until the organizational and procedural changes recommended in this Report have been decided upon and installed.

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## SECTION 2

**MEDICAL CARE SERVICES OF THE  
DEPARTMENT OF WELFARE**

BY

AMERICAN PUBLIC HEALTH ASSOCIATION, INC.

The Department of Welfare provides only a small portion of the medical services received by the 300,000 persons receiving public assistance in New York City, confining itself to residual or supplementary service not available elsewhere and service for those people not eligible for other sources of care. Only about 2 percent of the Department's budget is spent for medical services, and this would be even less if the services of the Departments of Health and Hospitals were sufficiently comprehensive in scope and adequate in amount.

A residual program is one that must complement other programs. It must be responsive to expansion, curtailment, and change in the programs of other official agencies and voluntary agencies. At present, there is little evidence that the Department of Welfare is drawn into the planning of changes in order to enable it to accommodate itself to them. There is an urgent need in New York City for more effective means of combined action by several departments of government and of better interagency communication and understanding. The

hospitals feel responsible for patients while they are in the institutions or attending their clinics. Patients may receive service from more than one hospital or clinic. There is no integration of services. If the Mayor of the City of New York would designate a New York City Health Conference, to consist of the Commissioners of the Departments concerned, and assign to that conference the responsibility of preparing written agreements which could be translated into policy and action, many of the problems of the Department of Welfare in regard to medical care could be solved.

The present system of providing such care is complicated, and a better one must be devised. High-quality, integrated medical care, which includes prevention and rehabilitation, is true hard-cash economy, irrespective of the great social benefits possible.

**Department of Welfare  
Responsibilities**

The medical profession as a whole takes little responsibility for the quality of service provided through the Department of Welfare. There are some 2,500 physicians on the panel of doctors serving Welfare clients. About one-half of these are active, but only about 10 per-

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Digest from "Study of Medical Care Services in the Department of Welfare of the City of New York," by American Public Health Association, Inc., April, 1952.



cent carry a case load of any size. In the public interest, measures should be instituted for securing more vigorous leadership from the profession in maintaining the participation of a sufficient number of well-qualified physicians.

Because of the Department's lack of confidence in the panel physicians, procedures have been developed which are designed to safeguard these deficiencies through case supervision by central office physicians. There is doubt that staff physicians, no matter how skilled, can really succeed in this objective without actual contact with the patients and the patients' social and physical environment. Unwise procedures and distant supervision could, in fact, lower the quality of care by discouraging the participation of the best-qualified practitioners.

From the point of view of the number of cases carried by individual physicians, the intensive case-by-case supervision now attempted would be indicated for only a small proportion of the physicians. At the present time some 1,200 diagnostic report cards are reviewed daily.

Productive in the long run would be such measures as: continuous careful program supervision, using critical statistical indexes; careful weeding out of the less competent panel participants and selection of new ones; work with the panel on a professional level, strengthening the participation of organized medicine in plans to maintain high quality of service; and integration of the services in the home with the diagnostic and other elements of the patient's total medical care.

The central office of the Department of Welfare should be involved in program planning, evaluation, and application of standards. The mechanics of

delivering the goods should be the task of the welfare centers. At the present time, the central office is too involved in checking and rechecking, authorizing and reauthorizing care. The client goes to the welfare center and that is where he is known, his problems are understood, and a more logical evaluation of his needs can be made. The medical social work staff is the background of the system of providing medical care to welfare recipients. These women carry a large part of the administrative load in the daily provision of services. They work under difficult conditions, always under pressure, and they need encouragement and guidance.

The Department itself operates under difficult conditions with its heavy case loads, large turnover of staff, and complications and restrictions involved in Federal and State relationships detailed in other studies of the Mayor's Committee.

There is also, of course, considerable public pressure to spend less.

The size of the case load is manageable by breaking the mass down into parts. The needs of all groups are by no means the same. Different methods for different groups and situations are necessary. No one method could be found that would be applicable for all; the Department should develop a variety of methods, and in this connection should actively support the home care program of the Department of Hospitals and the voluntary hospitals.

The Federal safeguard that equal services be available to all clients should not deter these efforts. Equitable treatment does not mean identical treatment. This Federal provision was intended to raise the general quality of care and to assure that services of like quality and



quantity would be available to all as needed.

## Two Key Agencies

There are a number of ways in which medical care might be secured for the indigent group. General medical clinics to provide continuous care to Welfare clients might be set up in City hospitals. The home care programs of the City hospitals might be strengthened and extended. Group practice units might be established in the City hospitals, using the medical schools as focal points with staff from the medical school faculty, hospital staff, and services of panels of private practicing physicians. A plan such as the Health Insurance Plan of Greater New York might be developed. In any of these, the Department of Welfare would contract for comprehensive, specified medical care under clear standards and based on comparable cost data related to the quality and quantity of service.

In the long run, it is preferable that there be only two agencies providing medical care services, namely, the Departments of Hospitals and Health. The present services of the Department of Welfare represent, for the most part, inadequacy and failure on the part of the other Departments in the provision of services. Federal and State legislation at present offer incentives to locate financial responsibility in the Department of Welfare. Operating responsibility can, however, through contractual arrangements, be located in the agencies specifically designed to provide medical care.

## Nursing Homes

Care of the chronically ill in nursing homes is another major problem of the

Department of Welfare. The hospitals are anxious to transfer patients to nursing homes in order to free beds for the acutely ill. Many persons in the shelters more properly belong in nursing homes. The medical social workers, however, are concerned about the quality of commercial nursing homes.

The strong force created by the State reimbursement pattern is an incentive to use private nursing homes rather than develop public facilities. There is considerable direct financial incentive, aside from the considerations of patient care. The last annual report of the Department indicates that this may mean some \$2,335,000 to the City.

The nursing home problem might be attacked three ways: public facilities might be developed in conjunction with established hospitals; nonprofit institutions which will offer care of high quality might be extended; proprietary nursing homes might be improved through more adequate payments, an adequate licensing system, and an educational program for nursing home operators.

The licensing of nursing homes might be transferred to the Department of Health in order to avoid double standards for institutions operated by the City and for those under supervision; to use the multi-discipline approach of medicine, sanitation, and social work for which that Department could arrange; and to avoid several specialized groups of inspectors and duplication of work.

It is recommended that the official responsibility for a comprehensive City-wide program for developing nursing home facilities be placed in the Department of Health, to be carried out in co-operation with the Welfare and Health Council.



## Hospital Care

The State reimburses the City for 80 percent of the costs of hospitalization for persons receiving public assistance through Aid to Dependent Children, Aid to the Blind, Aid to the Disabled, and Old Age Assistance. Full 80 percent reimbursement is limited not to exceed 6 months in any calendar year. Where a person is cared for in a voluntary hospital, the State also reimburses the City for 80 percent of the cost provided that person was receiving public assistance through the above programs before being admitted to the hospital. The State reimburses the City 50 percent for hospital care of patients with tuberculosis. This comes from Health funds and there is no means test for these services. The total financial picture is thus so complicated that it is impossible to tell what the actual cost to the taxpayer of the City for hospitalization and medical care of Welfare clients really is. The entire problem of hospitalization is a major City problem but it is clear that the Department of Welfare has a concern and responsibility for hospitalization of the needy.

## Pooled Fund

It is recommended that the Department of Welfare and the State Department of Social Welfare explore the use of the "pooled fund" for the primary purpose of improving medical care. Under this method, the City Department would make a previously determined monthly payment in behalf of each recipient of a Federally-aided category of assistance into a segregated fund. Out of this fund would be paid medical bills incurred in behalf of any individual recipient within the category involved. This is a way of averaging medical costs and would be, in

effect, a prepayment arrangement under the auspices of the Department of Welfare. The simplified procedures would remove an important barrier to decentralization of the medical care procedures from the Department of Welfare central office to the welfare centers. Moreover, substantial additional Federal funds could be secured for the State, particularly if all possible nursing home and hospital care are included in the pooled fund.

The per capita amount to be paid monthly into the several funds (one for each category) would vary for each category in the light of past medical experience with the group involved and would be determined in terms of the kinds of service to be covered, that is, physicians' services, drugs, prosthetic appliances, nursing services, hospital care, nursing home care. This method is acceptable to the Federal Security Agency so long as certain requirements are met to assure compliance with Federal law.

## Dental Service

As in all places, there is never enough dental service available to meet the needs. The dental services of the Department of Welfare are extensive and of good quality and reach an estimated 3 percent of persons receiving public assistance. There are difficulties of getting work completed when a patient goes off relief roles before care is completed. Some system of follow-up for at least those under 21 years of age might be worth considering.

The dental services meet only a small part of the needs, but since great amounts of money would be required to meet all needs, it becomes a matter of policy as to how much should be spent. Municipal fluoridation of the water



supply could be a valuable preventive step. It would have its maximum effect on the next and following generations, however, and will not help the adults and older people of the present case load.

### **Employability Clinics**

The employability clinics of the Department of Welfare are a bright spot. They were planned jointly by the Departments of Welfare and Hospitals and the medical social workers of the community. The clinics are located in City hospitals and are an excellent demonstration of the benefits of pooling the resources of the City. The client is studied completely, a medical diagnosis made, and a decision arrived at as to employability. This is discussed with the client and he is given advice regarding his medical needs. Arrangements are made for corrections in the case of remediable defects.

It is hoped that the facilities of the employability clinics can be extended to other groups, such as incapacitated parents in Aid-to-Dependent-Children cases, and Aid-to-the-Disabled cases.

### **Administration**

The administration of the public assistance aspects of the program are discussed in the study by the Public Administration Service.\* We support the need for further decentralization and agree with the reasoning and most of the recommendations in the Public Administration Service Report. It is hoped, however, that several procedures can be eliminated, not decentralized, and that changes in the philosophy of operation will minimize the changes involved in decentralization.

The services of a part-time physician for two or three hours daily in the welfare centers for the purpose of being in contact with a smaller group of panel physicians, of assisting with the planning for the total medical care of complex cases, and for better control of the quality of care, could strengthen the services. Such methods should be tried in two or three centers before being established on a City-wide basis.

One of the administrative problems is the structure of the position of Medical Director in the Department of Welfare, which is not satisfactory at present. There should be a focus of responsibility and leadership, and the full-time services and undivided attention of a medically trained director are required. This position is a pivotal one and is in a strategic spot in relation to the City's publicly provided medical care services, so that leadership, patience, persistence, and sound thinking applied here can be particularly effective among the other agencies and the health professions.

The salaries and other considerations must be such as to attract and retain the services of a qualified staff. The turnover among the assistant directors has been a serious problem.

Medical social work services could be strengthened in a number of ways. It is recommended that at least two classifications of senior and junior staff medical social workers assigned to the welfare centers be provided, and that the requirements of training and experience and the salaries be commensurate with the requirements of the position in administrative responsibility and consultative skills.

The central office medical social work staff should be supplemented by a field consultation staff, and a small extra staff of medical social workers should be

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\*ED. NOTE: See Section 3.



maintained for temporary replacements due to illness or turnover, and to permit training opportunities for the welfare center staffs.

Authorizations for medical care should be decentralized as completely as possible to the welfare centers. Some unusual items will require central staff consideration, but routine extension of visits and—hopefully—more of the appliance procedures, etc., can be decentralized. It is recommended that the Department of Welfare prepare the physicians' monthly statements by mechanical methods of tabulation from the data already available in the Department.

### Special Problems

**Appliances**—In spite of the complexity of price regulation by the State and City and the "paper work" involved in the provision of braces, artificial limbs, orthopedic shoes, etc., a substantial amount of these services is accomplished, although there are often long delays in securing the appliances.

It is recommended that the Department of Welfare, in co-operation with its Orthopedic Advisory Committee, seek means of further simplifying the provision of appliances.

**Ophthalmological Services** — The Department of Welfare operates three eye-examination stations in Brooklyn, Manhattan, and Queens, and provides eye glasses on contract for recipients of public assistance; there is a panel of ophthalmologists for the homebound. We do not favor further expansion of the Department of Welfare clinic services in this field. We do recommend that the Mayor appoint an ophthalmological task force to determine the needs of publicly provided services and the best methods of securing them and to recom-

mend a clear plan of action to the Departments and other agencies involved.

**Public Health Nursing**—While there is no evidence that bedside nursing is not being provided when the need is recognized, there is reason to believe that the full benefits are not fully obtained from the use of the physiotherapy services and of health counseling by the visiting nurse services to the welfare families when there is a homebound sick member. Nursing services are provided through the visiting nurse associations of the City on a contract basis. The fuller use of the physiotherapy services, particularly with such cases as recent hemiplegias, deserves serious study. Considering the volume of the nursing services, there are few problems and these can be solved if a plan is made for a working group from the Department of Welfare and the nursing agencies to discuss them together.

Immediate steps which might be taken to improve the administration of the nursing service program are: (a) an examination and rewriting of the current policies governing the nursing services and a provision made for their periodic review; (b) further simplification of the procedure for authorizing nursing service to save professional and clerical time in both the welfare centers and the nursing offices; (c) providing visiting nurse associations with a list of the panel physicians in each welfare district for use in emergency situations; (d) a plan to insure prompt reporting to the nursing agencies when the patient is no longer receiving public assistance and when the medical examiner decides nursing care is no longer needed; (e) more prompt payment of nursing service bills; (f) removing the legal restrictions which prohibit receipt of payment



for the nursing services given welfare recipients by Department of Health nurses assigned to the Red Hook-Gowanus Community Nursing Service; and (g) a closer relationship between the Bureau of Nursing of the Department of Health and the Medical Care Program of the Department of Welfare.

### **Child Welfare and Centers**

**Voluntary Agencies**—The Department is responsible for the determination of eligibility for public reimbursement of foster care furnished dependent, neglected, or delinquent children through voluntary agencies. Actual payments in behalf of such children are made to the agency by the Comptroller's Office on a flat rate basis which varies by age group and type of care. The meeting of the health needs of these children is the responsibility of the voluntary agencies through which they are placed. Children requiring hospitalization are usually sent to the City hospitals.

**Direct Placement of Children in Foster Homes**—While it is traditional in New York City to use voluntary agencies for the placement of children, recent difficulty led the Department to undertake its own foster home program in order to get these children out of City hospitals. This is a very small program involving about 200 children.

**Day Care**—The Department of Welfare determines eligibility of children for publicly aided day care and makes allocation of funds to 79 day-care centers for such care serving 5,000 children. The Department of Health licenses all preschool centers, but it is advocating

that the Department of Welfare certify to it those receiving public funds.

It is recommended that the Department of Health be requested to assume responsibility for the requirement of or the provision of medical care in the day-care centers.

**Shelters (Congregate Care)**—The Department of Welfare operates a number of institutions for homeless men and families. While men are not admitted to the Men's Shelter when seriously under the influence of alcohol, alcoholism is considered to be a problem for the majority. No treatment for alcoholism is given at the shelter. The regular services of the public health nurses of the Department of Health should be sought to insure prompt and adequate immunization of those in the Family Shelter. Close, sustained liaison with the Department of Health staff might well replace periodic investigations of outbreaks of communicable diseases.

**Community Support**—A paradox exists in regard to community interest of the Department's medical service program. On the one hand, the community supplies funds and health resources more adequately than is the case in many other places, through its voluntary agencies, hospitals, and other branches of the City government; at the same time, there is a lack of sympathy with the program and a failure to share with the Department the responsibility for assuring that needy persons receive reasonably good medical care. Many groups helped organize the original program during the depression when the problem of the needy was obvious. This interest has not been maintained.

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## SECTION 3

**ADMINISTRATIVE DECENTRALIZATION**

By

PUBLIC ADMINISTRATION SERVICE

Relief in New York City is granted under a number of categories, each of which is characterized by a special set of eligibility requirements and rules for administering. The conditions under which, and the extent to which, the Department may obtain State and Federal reimbursement, in whole or in part, add to the general complexity of carrying on the welfare program. Furthermore, costs must be properly allocated and distributed in accordance with the type and category of assistance rendered, and changes in client status occur with great frequency and unpredictability.

**Applying Decentralization to Welfare**

The complexity of the welfare program on the one hand and the ever-changing nature of the clientele on the other suggest a decentralization that focuses direct attention upon the welfare center as the fundamental operating unit. Maintenance of a highly centralized organization of necessity creates the need for a very large headquarters staff, without, on the other hand, reducing to any extent the size of staff necessary to handle operations in the field; and decentralization calls for competent people in the field, but such

people are not attracted to positions in which they are given no responsibilities.

**Obstacles to Decentralization**

There are perhaps two principal factors which have handicapped the Department in moving toward greater decentralization during the past few years. These factors are: (1) the Department's need to strengthen discipline and to impose centralized administrative controls, often at the expense of postponing desirable administrative changes; and (2) the deficiencies in co-operation and assistance from those other governmental agencies which influence the Department's organization and activities.

**Strengthening Administrative Discipline**

—In recent years the Department has gone through a period of extreme criticism from various public and private spokesmen. It has gone through a difficult struggle with a powerful and irresponsible organization of some of the Department's employees. Individual instances have been cited in which the case problems have been badly handled. These difficulties have made the Department cautious, and have caused it to want to gather into its central offices all important decision authority. Emergency measures and procedures have in some cases become institutionalized,

Digest from "Administrative Decentralization in the Department of Welfare, City of New York," by Public Administration Service, November 29, 1951.



written permanently into the "level of approvals" chart, and into personnel rules and regulations.

As a result of weathering the period of criticism, of correcting many of the deficiencies in Department organization and management, the Department is stronger today than it has been for many years in the past. It is now ready to move forward toward other fundamental improvements in its organization and procedures.

**Restrictive Interjurisdictional Relationships**—The Department of Welfare is very strictly supervised by other governmental agencies. Some supervision is necessary, for the Department administers programs established by the State, the Federal government, and the City. However, genuine co-operation in dealing with problems which are of mutual interest to all jurisdictions is lacking. Instead there exists an atmosphere of rigid control, mutual suspicion, and ready recrimination. Two specific areas may be cited as examples:

(1) *Changes in Operating Procedures and Practices.* State agencies have been extremely tardy in giving attention to problems and suggestions for improvement presented by the City Department. For example, the New York City Department has for the past several years engaged in a program designed to handle authorization of assistance payments to clients by means of a machine card. The new system was placed in trial operation at one welfare center, without, however, discontinuing the older manual methods. But it has experienced great delay in getting either approval or disapproval from the State. Consequently, it has been necessary to keep in operation two separate procedures, one wastefully duplicating the product of the other.

(2) *Control Over Personnel.* The State Department concerns itself with the nature and number of positions maintained by the City Department in the administration of the categorical assistance programs. It may also disapprove appointments and promotions if it feels that the persons affected are not qualified. The City Department should be permitted full responsibility and authority in these matters and held administratively accountable as an agency. An even greater administrative handicap to the City Department is the wholly inadequate service rendered it by the City Civil Service Commission.

### **General Organization of the Department**

The principal responsibility for administering the various categories of the public assistance within the Department of Welfare rests with the Bureau of Welfare Administration. The director of this bureau has under his supervision three Borough offices which in turn supervise the activities carried on in 15 welfare centers located throughout the City. In addition to the Bureau of Welfare Administration, the Department of Welfare maintains a number of other bureaus which either provide specialized staff or technical services for the principal operating bureau or conduct some specialized phase of the welfare program. In general terms, such an organizational structure is logical and sound. Nevertheless, a number of fundamental problems arise as to the functions and inter-relations of units, and particularly as to the relations between the central office units and the welfare centers, the latter being the focal points around which most major activities of the Department inevitably center.



## The Administrative Problem

Central office intervention in making decisions with respect to individual assistance applications and client problems should be limited to those cases involving unusual policy problems, and to systematic spot reviews.

Constant referral of problems to the central office for decision or handling can result only in a breakdown of communication, and the compounding of one status change upon another. Such a situation is already clearly evident in the preparation of relief payment rolls. Furthermore, social investigators in the field are already burdened by a heavy work load, and the time they necessarily devote to preparing case abstracts, referral memorandums, and transmittals is time lost if valid decisions could be made in the welfare centers.

The following guide rules are suggested as a basic frame:

(1) The Bureau of Welfare Administration in its entirety should be recognized as possessing final responsibility within the Department for handling the categorical assistance and home relief programs, and should therefore have within its own jurisdiction all units exercising line approvals with respect to the granting or withholding of categorical assistance.

(2) The welfare center should have adequate authority to grant public assistance and to place responsibility for granting or denying assistance.

(3) To the greatest extent possible, service and auxiliary functions related directly to the categorical and home relief programs should be performed within or close to the welfare centers.

(4) Communication of the central office with the welfare centers should be strengthened. The use of intermediate levels of authority should be avoided if possible.

## Present Status of Departmental Reorganization

The organizational concepts indicated above have already taken root in the Department, but only in relation to a part of the functions and activities of the assistance program. An important step has been taken to bring the recording and processing of new or changed authorizations right down to the welfare centers by the establishment of a decentralized machine system.

Central office bureaus and divisions have come to devote an increasing amount of time to developing improved procedures and methods, to analyses of existing systems, and to improving administrative functions and services. This has been particularly true in the Bureau of Personnel and Office Management and the Bureau of Welfare Administration. Nevertheless, much more attention needs to be devoted to these matters.



## ORGANIZATION FOR ADMINISTERING THE MAJOR SUBSTANTIVE PROGRAM

### The Bureau of Welfare Administration

The principal operating arm of the Department of Welfare is the Bureau of Welfare Administration, headed by a director, responsible for the operation of some 15 welfare centers throughout the City. To give regional supervision to these centers, the number of which is about to be increased, three Borough offices were established in 1948. In addition to the welfare centers, the Bureau maintains an administrative-control unit with some responsibility for a pre-investigation case load, and an appeals and fair hearing unit to process claim cases for hearings held by the State Department of Social Welfare.

In general terms the Bureau of Welfare Administration suffers from the following defects:

(1) The bureau has not been recognized as having full responsibility over the handling of the categorical assistance and home relief program.

(2) The headquarters staff of the bureau suffers from a substantial degree of isolation from the operating units, or welfare centers.

(3) The bureau is not in charge of the administration of all categorical assistance and home relief. Veterans' assistance is administered by a separate division directly under the First Deputy Commissioner.

**Assignment of Full Responsibility**—The Bureau of Welfare Administration should be given full authority over substantive approvals of assistance authorizations. This means, in effect, that final decisions would be made in the welfare centers or at higher levels within the

bureau and not in the central office "consultation" unit. The case consultation unit should be moved from the Bureau of Social Services and placed in the Bureau of Welfare Administration. It should:

(1) Review cases referred to it as provided in the level of approvals chart. This review should concern itself with the individual case not as an isolated situation, but as a problem situation the solution of which may have application in other identical or similar situations.

(2) As rapidly as a series of decisions in a group of related cases take on the aspect of approval policy, the policy should be stated in writing and handed down to the welfare centers for future application without the necessity for any future referrals.

(3) Regard its function as that of framing policy in the handling of case situations. It is not and should never consider itself a "watch dog" over case handling in the welfare centers.

The referral of specific problems to other central office consulting or staff units for approval should stop. The nature of true consultation needs increasingly to be emphasized.

**Relationships Between the Bureau and Welfare Centers**—Several steps should be taken to bring closer together the central office activities of the Bureau of Welfare Administration and the operations of the welfare centers. These steps should include the abolition of the Borough offices (already contemplated by the Department), the strengthening of the staff assistance given the director of the bureau, and a deliberate attempt on the part of the central office people



in the bureau to get "out in the field" and develop a better understanding between themselves and the employees in the welfare centers.

Present plans of the Department call for the establishment of five or six machine centers for the processing of the machine card authorizations and for carrying out other mechanical operations that the new machine system will make possible. The Borough offices do not fit into this arrangement and, if they continue in existence, will make central office supervision of machine center activities more complicated.

The director of the Bureau of Welfare Administration, however, should not be expected to bear the full burden of supervision of over 15 welfare centers without adequate staff assistance. Several positions of assistant to the director should be created.

The Bureau of Welfare Administration should embark upon a definite pro-

gram to raise the general morale of the employees in the welfare centers, first by taking a more positive interest in the difficulties under which the social investigators and clerical employees function, and second by taking steps to alleviate these difficulties.

**Responsibility for Categorical and Home Relief Programs**—The Veterans' Division should be brought back under the Bureau of Welfare Administration, and the case load should be dispersed among the appropriate welfare centers. This can be facilitated by placing a special veterans' counselor in each welfare center, and by a special machine sort and tabulation of veteran cases in the new machine centers. By distributing the veteran case load in the regular centers, social investigators working on veteran cases will not have to spend Department time and money traveling all over the City from one special welfare center.

## STAFF TECHNICAL SERVICES

The Bureau of Social Services is responsible for maintaining the staff technical services of the Department. The bureau is comprised of two divisions, Consultant Social Services and Auxiliary Social Services, both of which operate through a number of specialized units. The Division of Auxiliary Social Services deals with housing, employment, medical social work, rehabilitation, homemaking, day care for the aged, some related community services, and the medical and dental service programs. The Division of Consultant Social Services deals with problems of home economics, operates an information and adjustment service, a closed case reporting service, and pro-

vides line approvals on certain problems arising in the handling of client situations referred to its case consultation unit.

To some extent, each of the activities of the Auxiliary Social Services Division requires the maintenance of a central point for the gathering and dissemination of specialized knowledge or information. At the same time, each activity is directly related to the program of the Bureau of Welfare Administration in the handling of case load in the welfare centers or to the programs of other departmental bureaus granting specialized assistance. The same may be said for the home economics program of the Division of Consultant Social Services.



The relationship of these staff technical services to the work of the welfare centers is so direct and represents such a volume of activity, that special consultants in each welfare center act in a liaison capacity between the center and the central office unit in the fields of housing, employment, medical social work, and home economics. These special consultants are employees of the Bureau of Welfare Administration and are under the supervision of the welfare center administrator. Nevertheless, they also receive technical orientation and a rather uncertain amount of supervision from the staff technical service units. The same relationship exists between the resource consultants in the welfare centers and the central office Division of Resources of the Bureau of Resources and Legal Services.

### **Consultation and Service**

**Employment**—The employment unit of the Division of Auxiliary Services contacts the New York State Employment Service and a wide variety of potential employers. Referrals are made on the basis of a central clearance in order that the suitability of the person for specific position may be assured and no surplus of referrals made for any one opening. Referrals are also made to the special labor force maintained by the Department, and special treatment is given to rehabilitation cases.

**Housing**—The housing unit of the Division of Auxiliary Social Service also acts in a service capacity. The central office staff deals with other government agencies in the housing field, maintains contact with the rent control office, and maintains a reference file of buildings approved for habitation. The housing consultants in the welfare centers make inspections of the housing facilities of clients as to suitability, assist in the

referral of clients to available housing, and attempt generally to keep the welfare centers informed as to the status of available housing, suitable rents, and similar matters. Liaison between central office housing staff and the housing consultants in the welfare centers is maintained by three field supervisors.

**Medical Social Work**—One or more medical social workers are located in each welfare center. These people are primarily concerned with providing assistance to the social investigators when medical problems are encountered in the handling of client case load. Unlike the other staff consultants in the welfare centers, the medical social workers act primarily as approval officers. A single medical social work supervisor functions in a rather obscure liaison capacity between the medical social workers in the welfare centers and the medical director and his staff. The supervisor, however, is not a part of the medical director's staff, but is responsible to the chief of the Division of Auxiliary Services. This is an unsatisfactory relationship and one that needs clarification.

**Home Economics**—The home economics unit is located in the Division of Consultant Social Services rather than the Division of Auxiliary Social Services. In the central office, the home economics program is concerned with setting up and maintaining budgetary standards for the household expenses of recipients of public assistance. In the welfare centers, home economists are supposed to provide consultation and assistance to social investigators in the preparation of special diets, and in related problems of home economics. A degree of co-ordination and orientation is provided by a field supervisor who acts in a liaison capacity between home econom-



sts in the welfare centers and the central office staff unit.

**Resources**—A particular problem in establishing the eligibility of applications for public assistance is that of the disposition or utilization of such material resources as applicants may have at their disposal. In order to deal with the special legal and research problems involved in the handling of real property, insurance policies, bank accounts, and other resources, a separate division of the Bureau of Resources and Legal Services functions within the Department of Welfare. In its service to the welfare centers, the Resource Division stands in much the same relationship as do the other central office technical staff services.

### **Relationship to the Bureau of Welfare Administration**

There is much evidence to indicate that the best use is not now being made of the staff technical services. The basic problem is to make these services available in the most effective way, but to prevent their use from duplicating the work of the social investigator and delaying unnecessarily the processing of cases.

The various consultants in the welfare centers spend much of their time merely indicating their approval to recommendations prepared by the social investigators without giving any form of substantive review to the "special" case situation. When real assistance is needed, social investigators frequently find it difficult to get their problems before the consultants because the consultants are too busy.

The consultants should not be required to approve anything, but rather should be available for consultation whenever the social investigators and case super-

visors decide that their help is necessary. In addition, the consultants should devote a considerable portion of their time to assisting investigators to recognize situations in which their special knowledge and experience may be used to advantage.

### **The Special Problem of Medical Service**

The Department of Welfare will pay for medical care to clients when such care is rendered in the home on an emergency basis or for longer periods when the condition of the patient does not permit his use of available clinical facilities. In addition, other medical services may be provided. Because of the highly specialized nature of medical care, the medical program of the Department must be considered a special service to be made available only when authorized by people of professional competence.

The volume of medical authorizations is high. The medical program involves use by the Department of over 2,000 retained physicians, and is carried on with almost no supervision except that provided by a financial audit of payments made to doctors and pharmacists. The audit process is complex and extremely costly.

The medical director and his few assistants in the central office are not in a position to appraise the requests for service adequately. The present system results in an excessive loss of time and effort in the referral of situations from welfare center to central office, from welfare center to panel physicians, from panel physicians to central office, and from central office back to welfare center and to finance.

It is recommended that the medical service program be decentralized by



placing a physician in each welfare center, responsible administratively to the center administrator and technically to the central office medical director. The physician should be authorized to grant all approvals for medical service now requiring referral to the central office. He should give general supervision to the services performed by panel physicians, consulting with them on special cases as the need arises. Medical social workers in the welfare centers should work under technical supervision of the assigned physicians, but should be freed of the many approval duties they now possess and devote more time to providing consultation service to social investigators and case supervisors. Direct supervision of medical social workers from the central office Division of Auxiliary Services should be discontinued. Any central training and orientation programs for medical social workers should be organized and conducted by the medical director in conjunction with the Department's Training Institute.

The procedure for processing authorizations for medical services should be revised so as to simplify and eliminate as much as possible the costly medical audit now performed in the Bureau of Finance and Statistics.

### **Division of Consultant Social Services**

The recommendation has already been made that the case consultation units of the Division of Consultant Social Services be moved to the Bureau of Welfare Administration.

**Information and Adjustment**—The information and adjustment unit has as its principal function the receipt and routing of informational requests and a wide variety of complaints that come in to the Department, whether by

phone, by personal visit, or by correspondence. These functions should be assigned to the staff and community relations unit reporting to the Commissioner.

The handling of complaints in regard to specific cases is another matter. Complaints concerning the denial of categorical assistance may give rise to hearings before the State Department of Social Welfare. These are processed by the appeals and fair hearings unit of the Bureau of Welfare Administration.

Inasmuch as it is the Bureau of Welfare Administration that is responsible for the granting or denial of assistance, for the establishment of eligibility, and for the development of information to support its decisions, it is the bureau that should receive and process these complaints and statements. The Bureau of Welfare Administration should expand its appeals unit to handle all such complaints and charges whether or not they may give rise to State hearings.

### **Home Economics and Related Research**

—The central office home economics unit performs a function of auxiliary service similar to those carried on by the various staff units in the Division of Auxiliary Services. Its relationship to the welfare program and to the organizational units responsible for conduct of the program is basically the same as that of the employment and housing units. It should be transferred to the Division of Auxiliary Social Services and co-ordinated with the other technical staff services of that division.

**Closed Case Unit**—The closed case unit exists to maintain the file of closed cases and to make available informational data that may be called for from those files. It should be placed under the jurisdiction of that division making greatest use of closed case information.



## THE STAFF FACILITATIVE SERVICES

The principal staff facilitative services possibly susceptible of further decentralization are personnel administration, financial administration, and organization and methods analysis. Administrative responsibilities for the first of these services is assigned to the Bureau of Personnel and Office Management; for the second, to the Bureau of Finance and Statistics; and for the third, to the Planning Division of the Bureau of Personnel and Office Management.

### Personnel Administration

The present service rating system serves little useful purpose. The iron-clad control maintained by the Civil Service Commission over promotions and the completely automatic in-grade salary increase system leaves the Department almost no area of discretion in which the ratings might be useful. The very process of preparing ratings, and particularly the subsequent posting of results rather than treating these as confidential, is a strong negative morale factor.

Vacancies may not be filled promptly because of Budget restrictions.\*

Interference by the State Department of Social Welfare on appointments, particularly of provisional employees, and on reviewing personnel transactions, is a constant irritation. The State should, instead, support the Department in getting real service out of the Municipal Civil Service Commission.

Because the classification system is

not up to date, many persons perform entirely unrelated work of distinctly different levels of difficulty, but under the same class title and pay.

The City Civil Service Commission provides a completely inadequate recruitment service. Examinations are given so infrequently, and the time lag between the time the examinations are given and the time the eligible lists are available is so great that the Department must fill hundreds of vacancies with provisionals.

There is virtually no promotional system. Promotional examinations are given very infrequently, are open only to employees in the grades below, and often are unrealistic in their appraisal of the capabilities required in the vacancies to be filled. Promotional opportunities for social investigators are not great, at best, so that there is little to provide incentive for the employee.

These weaknesses in personnel administration have already been indicated in a previous report completed over a year ago. No important steps to eliminate these difficulties have been taken. Unfortunately, there is little the Department of Welfare can do in this area, but it has not been sufficiently energetic in calling official and public attention to the wholly unsatisfactory environment in which it works.

It is suggested that the Department more actively pursue the following measures: (1) maintenance of an up-to-date classification and pay system for municipal employment; (2) realistic recruitment; (3) promotion based on merit; (4) sound service rating; and (5) more discretion in filling vacancies.

\*ED. NOTE: Since January, 1950, the Budget Director has been issuing blanket certificates for the filling of more than 80 percent of the Department's vacant positions.



**Improvement of Personnel Administration**—The Department has taken several steps toward the improvement of internal personnel operations. Time and leave rules have been completely revised. Basic personnel records are to be kept on a mechanized basis as soon as forms, procedures, and control systems have been completed. The projected mechanization will simplify and speed up the process of maintaining records and recording personnel transactions. It will also provide more accurate controls over such factors as length of service, eligibility for in-grade salary increases, use of leaves, and similar matters.

Welfare center administrators should be allowed complete freedom in the assignments made to their subordinates and held responsible for getting the work done by the director of the Bureau of Welfare Administration. Unless a recordable transaction is involved, the personnel division should not be concerned with the management of welfare center operations.

### **Financial Administration**

The use of a tabulating card in place of the current manually-prepared authorization has the following important advantages:

- (1) The social investigator does not lose valuable time preparing a complete new authorization form every time the status of a case is changed.

- (2) There is no loss of time and accuracy in copying data from the authorization to other records.

- (3) Tabulated by-product information is readily available for statistical purposes and for control purposes where it is needed in the welfare center.

- (4) Wherever duplicate records are needed, they can be reproduced mechanically without loss of time or accuracy.

The finance and accounting functions are performed primarily to serve the operating units of the Department and the clients, and at the same time to provide such financial and statistical records as will support actions taken. It has already been determined that, on the basis of service needs, decentralized machine installations serving the welfare centers are desirable. There is no good reason why duplicate records should be maintained on a centralized basis, provided it is possible to perform all essential accounting machine functions in the decentralized machine centers.

Once the decentralization process is completed, the central office financial and accounting function will become one of general supervision, standard maintenance, audit, and interpretation of financial data. It will act as liaison agent for the Department in financial and audit matters with City and State finance and audit departments, and it will devote an increasing amount of time to the improvement of departmental budgeting and related procedures.

### **Organization and Methods Analysis**

About two years ago a Planning Division was created in the Department of Welfare. It is responsible for organization and methods analysis and related functions. The division was originally responsible to the Commissioner, but was later placed under the Bureau of Personnel and Office Management and was to function primarily in studies relating to administrative improvement and assist in the installation of new procedures and methods. Since its creation, the division has participated in the planning of three major projects: mechanization of assistance authorization procedures, mechanization of personnel records, and installation of a time



clock system. It is currently continuing work on detailed problems involved in these major installations, and it is also beginning work on a proposed mechanization of inventory records for departmental furniture, equipment, and supplies.

To strengthen this division, its chief should be brought into the higher administrative councils of the Department whenever organization, systems, and

procedures bear on the matters discussed. The division should be given a more adequate staff, experienced in administration rather than social welfare. In the conduct of studies for the various bureaus of the Department, those organization units should assign competent persons to work with the Planning Division. Great care should be exercised to avoid calling upon the Planning Division for operation or line supervision.

SECTION 4

**FINANCE AND ACCOUNTING**

BY

CRAFTS, CARR & DONALDSON

This study covers the financial, accounting, auditing, and statistical policies and practices and procedures of the Department of Welfare, and their relationship to Federal and State regulations and requirements.

Public assistance is no longer a temporary problem, but a permanent operation in the City's functions which requires co-operation and co-ordination of all categories of government for successful administration. The accompanying table shows types of assistance processed by the Department in August, 1951, and the number of persons receiving aid.

The Federal and State governments

Digest from "Financial and Accounting Policies and Procedures of the Department of Welfare, City of New York," by Crafts, Carr & Donaldson, October 31, 1951.

Group or Type	Number of Recipients
City, Federal, and State	
Old Age Assistance .....	59,549
Assistance to the Blind .....	2,646
Aid to the Disabled .....	18,145
Aid to Dependent Children .....	132,759
Home Relief and Veteran Assistance .....	89,818
School Lunch and Milk Program	
(Based on June, 1951) .....	74,000
City only	
Day Care of Children .....	5,660
Foster Care and Children's Center .....	18,280
Homeless Assistance (monthly average).....	5,500
Total .....	406,357

participate in the assistance program by reimbursing the City for a substantial portion of the direct and administrative costs; these reimbursements are dependent on strict adherence of claims to State statutes, rules, regulations, and formulas, and Federal statutes and administrative requirements.



Because of statutory conflict and duplication of procedures in the tri-governmental welfare activity, application and administration are involved and complicated. This tends to increase inefficiency and to decrease the maximum benefits that might be derived from available funds. Overlappings, duplication, and detail categorizing of all three agencies create a complex and unwieldy relationship which is costly and inequitable in the granting and administering of public assistance.

Welfare disbursements and administrations are now a colossal segment in

the City's fiscal structures. With a 1951-52 total expenditure budget of \$168,982,000, of which \$135,427,000 is for grants in public assistance, with over 300,000 persons receiving such assistance, and with \$24,539,000 budget for salaries of 8,300 employees, it is obvious that within the limited appropriation allotted for this assignment, this Report should be viewed as the preliminary air-mapping of the terrain surveyed, coupled with technical analysis of the locales where wells should be driven most likely to yield the best production.

## INTERGOVERNMENTAL RELATIONSHIP

### Federal Government

The Federal Security Agency will not deal directly with any local subdivision and therefore all fiscal relationships on participation, standards, requirements, etc. are directly between the State and the Federal Security Agency. The details of the operating methods and procedures to be employed by the local welfare districts under such plans are left to the discretion of the states, but must be approved by the Federal Security Agency before becoming effective.

Claims for participation made by the State on the Federal Security Agency for settlement and payment approval are calculated from rolls processed by the Department of Welfare with respect to Old Age Assistance, Aid to the Blind, Aid to the Disabled, and Aid to Dependent Children. In auditing these claims, the fiscal auditors of the Federal Security Agency review and verify the supporting papers and data, and test-check the original authorizations in the office of the Department. Representatives of the Federal Bureau of Public

Assistance visit the welfare centers and make test-checks of cases to determine eligibility under the requirements and standards fixed by Federal legislation and regulations. If exceptions are taken to eligibilities, the Federal Security Agency refuses to contribute to the State for such cases and the State then charges back to the City the amounts disallowed, plus the State share. Whenever possible, Federal disallowances are reclaimed under another category or under Home Relief, toward which the Federal Government makes no contributions.

Test-checks by Federal examiners in New York City are difficult to make because (a) no central place makes available *all* data of payments recorded as assistance to each recipient, and (b) the unusual and cumbersome City payroll and budget systems hinder the gathering of data of other costs. While each welfare center records all originating data and action in its area, the central office of Welfare assumes and performs so much operating detail



(such as disbursement, check cancellations, refunds, recoveries, and medical data) that it is not possible to get the full picture of the condition and payment status of any case.

New York City is not receiving reimbursement for a considerable amount of administrative cost which it would be entitled to claim under the Federal regulations, but which it cannot claim under the State's. Since the Federal Security Agency deals only with the State and reimburses it, these administrative costs are never reflected in a claim to the Federal Security Agency.

### State of New York

The State controls, supervises, and sets policies and procedures in the granting and administering of public assistance by any local unit of government. The strict regulations which it imposes are set forth in the State Constitution (Article XVII) and the statutes (Social Welfare Law 1940, Chap. 619).

The welfare structure is constantly changing in its coverage, allowances, apportionments, inclusions and exclusions, sharings, and the creation of new categories. The Federal or the State government initiates all these changes and specifies the standards, the rules, and the minute procedures which go with them. Failure to comply means loss or diminution of contributions. Some of these requirements are most precise and exacting, making it necessary to "break out" and tabulate much detail and, if necessary, to set up new personnel units to handle the additional work. All regulations are applicable throughout the State, with no allowance made for the unique welfare problem

of New York City compared with ordinary County welfare units.

The City is also required to make every effort to classify cases under the Federal categories (as distinct from Home Relief), for in that way the State is able to draw the maximum Federal assistance to lighten the State's 80 per cent portion. The City does not benefit financially by this requirement; on the contrary, it may result in additional cost to it. The establishment, about a year ago, of the new Federal category for Aid to the Disabled considerably increased the administrative costs of the Department by creating thousands of new cases through redistribution of cases in other categories, with no additional income to the City.

Such growth of auditing, accounting, statistical, disbursing, and claiming operations require the services of many hundreds of employees to cover greater detail, variety in figures, and reports to be produced.

### State-Local Relationship in Other States

A survey of the applicable law and practice in other states of the country showed that 29 states (including Alabama which has legislation pending to transfer all responsibility to the state) *administer and disburse* grants to recipients of Old Age Assistance without participation by local subdivisions, 8 states *disburse* directly to recipients on bases of rolls submitted and certified by local subdivisions, and 11 states require local subdivisions to administer and disburse directly *under State supervision and regulations*.

With respect to Aid to the Blind, only 7 states follow the New York system.



### Complexities Involved and the Paramount Recommendation\*

The case of a hypothetical family of eight persons involving six categories of relief, illustrates the complexities encountered. Its need for public assistance as determined in *family unit* is set at \$151.25 each half-month pay date. The family budget is worked out in detail on a Family Budget Work Sheet. The major items of food, personal care, clothing, etc. are "unscrambled" and rather arbitrarily spread over and divided among the individual members of the family, and reflected in equal semi-monthly payments (even though the full month's rent, a major item, is generally payable at the first of the month). Six separate totals are arrived at and a sharing formula is calculated. When the morning mail is delivered on pay day, six checks in six different colors will be found in the same mailbox addressed to the six separate payees all living as one family in the same quarters (18 cents total postage, incidentally). Multiply this one family case of eight persons by the hundreds of thousands of other cases, and some idea can be grasped of the magnitude and complexity involved.

Therefore one outstanding recommendation must be that, on the very highest level of policy between the Federal, State, and City governments, this "cancerous growth" and paper rigmarole be cut away; that public assistance be legislated, organized, administered, and accounted for so that demonstrated need from whatever cause is *one sole category*, the Federal government contributing to the states on an over-all percentage basis, with only the very broadest of simple standards; the State

directly setting its own sensible standards, administering and disbursing public assistance *on its own*. But, if it must be, the State may call on and assess local units of government with some percentage of the amounts disbursed for residents within their respective territories. The Federal government can protect itself against a "blank check" by limiting its contribution to a maximum per capita of each State's population, or some other suitable formula.

If the State rebels at dealing directly with the recipient in his or her home and measuring need, at least there is no practical reason why the disbursements should not be made by the State. Let the local units operate on the welfare center level, even under supervision of the State as at present. Let the center certify to the State day by day the "on and off and changes" in the rolls, or submit the rolls on tabulating cards, the State meanwhile doing all the auditing it wishes. Then the State will maintain and disburse the rolls from its own funds, simply certifying to, and collecting from, the City the portion the latter should contribute.

### Reduction in State Welfare Costs at City Expense

The policy of local participation and the 80/20 percent sharing formula (which replaced the former 60/40 percent division) was determined several years ago as a result of the work of the "Moore Commission." This formula was intended to compensate the local subdivisions to some extent for costs of other welfare programs not specifically shared by the State. Since then the expansion and the liberalized payments of Federal participation have operated to reduce the cost of the

\*Mr. Benjamin Fielding dissents. See page 594.



State's participation very materially, particularly in the categories of Aid to Blind, Old Age Assistance, and Aid to Disabled. None of these increasing benefits has been passed on to the local subdivisions in any respect.

This additional Federal participation in the categories of Aid to Dependent Children and of Aid to the Disabled is estimated to yield more than \$13,000,000 to the State on New York City cases in the 1951-52 fiscal year, with only about \$400,000 to be received by the City on hospitalization cost and some administrative expenses. Expansion in these programs has imposed extra administrative burdens and costs on the City, which the City must assume without recoupment. Other welfare services and costs are fully borne by the City; this has the effect of reducing the Home Relief burden, otherwise mainly a State outlay. The Shelter Care Program, Day Care Centers, and Children's Center and Foster Care program are in this group. The question of equitable and proper sharing following Federal increased participation should be included in the "high level" conferences.

### **Relations with the Comptroller and City Treasurer**

The gross expenditures of the Department are covered by appropriations included in the annual budget of the City of New York. Amounts recovered by way of State and Federal participation in such expenditures are taken up in the City's accounts as revenues. Appropriations for the fiscal year ended June 30, 1952, showed sources of funds to be: City, 24.4 percent; State, 44.2 percent; Federal, 31.4 percent. This was, respectively (rounded): City, \$41,000,000; State, \$75,000,000; Federal \$53,000,000; total, \$169,000,000.

The fiscal relationships of the Department within the City government are almost entirely with the Offices of the City Comptroller and of the City Treasurer. The latter is concerned principally in the matter of receipts covering reimbursements from the State for State and Federal participation, and other receipts arising from the activities of the Department.

The Department is charged with the custody of nine imprest funds, advanced by the City Treasurer, which are used to finance disbursements covering public assistance grants, medical care, foster home care, day-care center costs, and miscellaneous expenses. The imprest funds are replenished on the basis of vouchers, submitted by the Department, and supported by composite rolls, foster-home-care rolls, day-care-center vouchers, vendors invoices, etc. The principal of these funds may vary in amount depending upon requirements. Disbursements for payrolls and other expenditures (not payable from the imprest funds) are made through the City Comptroller's Office in the same manner as those for other City departments.

The City Comptroller's Office makes no field audit of disbursements chargeable against amounts appropriated to the Department. The original records in support of payments of public assistance grants and expenditures for payrolls are kept in the Department. The Welfare Audit Section of the City Comptroller's Office examines, reviews, and "office audits" all disbursement vouchers of the Department except payrolls. Payrolls are prepared and paid by the Central Payroll Division of the City Comptroller's Office on the basis of information reported by the Department.



In cases where there is State and/or Federal participation in expenditures, separate appropriation accounts are carried by the City Comptroller's Office for the City, State, and Federal shares. Since to a large extent no audit is made by the City Comptroller's Office of the *original and source records* in support of expenditures chargeable against appropriations of the Department, full reliance is necessarily placed upon such internal audit and control as may be effective within the Department. This reliance is not well founded. Little or no internal auditing, in its true sense, is done in the Department and, in many cases, controls are nonexistent.

The Federal and State governments do, to a small extent, audit the records at the welfare centers in support of public assistance grants, and office reviews are conducted in the State Comptroller's office. That lack of effective internal audit exists in the Department's functioning is clearly evidenced by the number and amounts of disallowances made by the State, even in light of quite

limited reviews. This is proving costly to the City in that reimbursement is denied, sometimes for long back periods. The City must stand 100 percent of an outlay which, under a prompt and efficient internal auditing system, could have been prevented or minimized.

*The City Comptroller's responsibility in this regard is one that should have immediate study and action.* An auditing unit directly under, and reporting to, the City Comptroller would be excluded in contributing reimbursement by the State; thus in a sense 80 percent of the personal service cost would be lost. However, the situation might be met if a separate Internal Auditing Section were organized within the Department and under the supervision of its Bureau of Finance and Statistics. The City Comptroller would appoint one of his employees as Consultant to this section and he would physically make his office there. The program, the processes, the content of reports, etc. would be prescribed by the Comptroller (his responsibility under the City Charter).

## FINANCIAL ADMINISTRATION

### Bureau of Welfare Administration

The Bureau of Welfare Administration has the principal responsibility for operating the public assistance program. Field work is carried on in 17 welfare centers: 15 serve definite geographic areas of the City; two operate on a City-wide scope—one for assistance to nonresidents, the other for assistance to veterans.

Each welfare center is in charge of an Administrator. The work at the welfare centers falls into two general groups, social service and clerical,

which are divided into appropriate operating units.

Each welfare center handles from 15 to 20 case units, each of which has an average of eight social investigators, a supervisor, and clerk. Over-all supervision of case units is administered by a Case Supervisor, and that of clerical units by an Office Manager.

The Administrators and personnel of the centers are responsible to the Bureau of Welfare Administration through three regional offices. Some personnel are engaged in carrying out



programs set up by, or requiring approval of, other bureaus of the Department and must follow procedures established by the bureau which administers the specific program, such as medical care. Employees concerned with the financial and statistical records are not under the direct control of the Bureau of Finance and Statistics. Procedures affecting this phase of the work at the centers are generally devised by this bureau under authority of the Policy Committee of the Department, and approved by the Bureau of Welfare Administration.

### Procedures at the Welfare Centers

The standard procedures at the welfare centers for recording financial and statistical actions are the basis of case evidence in substantiating claims for intergovernmental participation.

Determination of original eligibility and periodic review of continued eligibility are important processes. Prospective "clients" are screened for appointments with an Intake Interviewer, and furnished with an Application for Public Assistance to be filed, when interviewed, with any papers or documents representing possible resources. Applications are rejected, accepted for field investigation, or referred to a case unit for emergency assistance and a Report of Intake Interview is made. A file folder containing all pertinent papers for each application is prepared, assigned, and transmitted to a Case Unit (if accepted).

Social field investigators in the Case Unit have the basic responsibility for determining eligibility for public assistance, for recertifying each of their cases at stated intervals, and for seeing that assistance terminates when eligibility ceases, or is adjusted to meet changes

in needs. This includes determining the amount of public assistance to be granted, authorizing the grant, and initiating related clerical work. The investigator prepares a *Family Budget Work Sheet* which estimates total needs of the case less any available income, lists different types of permissible assistance, and allocates payments to individual members of family. A *Budget and Social Data Record* for each case contains the personal data of those included, together with budget information, and serves as a basic record in the Case Unit until it is closed or transferred.

Recipients of public assistance are provided with medical, nursing, and hospital care, and may also receive dentures, eyeglasses, or surgical appliances at public expense. Doctors, nursing agencies, pharmacies, and certain other vendors are paid directly by the Department of Welfare on authorization by the Welfare Center Medical Unit for the type of care required. The Medical Auditing Section of the Bureau of Finance and Statistics matches authorizations with the related charges on invoices before approving payment.

Repayments of assistance wrongfully or erroneously granted, or receipt of funds for the establishment of burial funds for recipients, are received in the welfare centers. The money and one copy of each permanent receipt is transmitted to the Miscellaneous Receipts Section of the Bureau of Finance and Statistics, which deposits the money in a special account, to be transferred as a credit to the original disbursing point.

The Statistical Units of the welfare centers report to the Division of Statistics of the Bureau of Finance and Statistics all information relating to vol-



ume, activity, and status of the work of the Department. The *Daily Report of Action Taken* is a chronological, official record of case actions and indicates by code all case openings, closings, and transfers to or from other centers, as well as changes in case composition. The Statistical Unit of the welfare center prepares this report from similar reports received from the various Case Units.

Other reports prepared by the Statistical Unit for the use of the Division of Statistics include a weekly analysis of case load; monthly reports on the status of the recertification process within each Case Unit; monthly reports per case unit of the social investigator's activity in the office and field; a listing of the number of medical authorizations of various types issued each day by the Medical Unit, showing totals for the month; and a weekly report showing a day by day number of applications for each type of assistance received, disposed of, and pending, with a monthly summary.

An alphabetical master file at each welfare center constitutes the basic record for use in locating cases in the welfare center, information as to current social status, and prior public assistance. Much duplication of the data in the Master File Card is found in the card files maintained by individual units of the center for their specific purposes.

#### **Conclusions and Recommendations —**

The social investigators are required to spend considerable time in filling out numerous forms which might better be done by nonprofessional personnel to free social investigators for tasks demanding their special skills and training.

*The Notification of Additions and Changes in Authorizations* and the

*Daily Report of Action Taken* are both official reports of statistical and financial actions. The first is the only authority for monthly issue of many millions of dollars by the Disbursing Section; neither report is certified over the signature of the Administrator and/or Office Manager of each welfare center as to the completeness, accuracy, or propriety of the information reported. Much of the statistical information appears on both forms and originates largely from the same basic documents, so that they could be combined with little procedural change and, in addition, could be coded to conform with the codes used by the Division of Statistics in tabulating the statistical data reported. This would avoid the time-consuming task of recoding daily reports for purposes of preparing punch-cards.

If the Master Card File and the collateral files now maintained by other units in the center could be replaced by one true Master File, time and effort would be materially saved, the error factor would be minimized, and a complete summary of the social and financial history of a case would be available, which is not a fact now despite the detailed record of individual operations. A simple appliance, low in cost and inexpensive to operate, needing no skill or special training of an operator, could solve this problem by readily and cheaply reproducing and extracting case data which is now extracted by hand and then typed up.

*Investigator's Daily Work Sheets* were introduced at the request of the State Department of Social Welfare. Theoretically, this form provides a device for planning caseload, making the maximum productive use of time, and facilitating organization of field and



office work; it also provides a method by which the Supervisor will carry out his over-all responsibility for the direction of the Case Unit. The information is summarized monthly for each investigator, for each Case Unit, and for all Case Units in the center, on special recapitulation sheets.

The utility of these reports is questionable. They add a considerable burden to already heavily loaded investigators and Case Unit clerks, without providing data not already obtainable through other sources or by simpler methods. In some instances information to be entered is little more than memoranda and additional forms are still required for official action.

### **Bureau of Finance and Statistics**

The director of this bureau is charged specifically with responsibilities for: supervision of all fiscal and accounting operations; collection, compilation, and publication of all statistical reports; preparation of all budget estimates other than for personal services; determination of all policies and procedures relating to financial and statistical operations; and liaison between the Department and other City, State, and Federal agencies with respect to fiscal and budgetary matters.

The bureau consists of the Division of Accounting and the Division of Statistics, each of which is in charge of a director. Based upon the payroll for the second half of July, 1951, the bureau is staffed by 558 persons at an annual salary cost of \$1,658,000. These figures cannot be considered as representing the entire salary cost of the accounting and statistical operations of the Department. Certain employees at the welfare centers and in other bu-

reaus spend all or part time in processing source data.

The Director of the Bureau of Finance and Statistics receives an annual salary of \$8,000 for over-all supervision of the work of 558 employees.

The personnel is subject to a large turnover, probably due to a low pay scale, which does not make for smooth operation. Competent key men with years of service are difficult to replace at present salaries of \$4,270 a year.

In general, the forms in use throughout the bureau are not well designed and often result in cumbersome and time-consuming procedures. It is apparent that large savings could be effected each year if a small section were to be set up to conduct a constant and intensive review of the methods and procedures employed.

### **Division of Accounting**

The Day-Care Accounts Section reports directly to the Director of the Bureau of Finance and Statistics on matters of policy and the Appropriation Accounts Section is directly responsible to him in relation to budgetary matters. With these exceptions, the Director of the Division of Accounting supervises the operations of the 14 sections comprising this division.

The staff of the Office of the Director of the Division of Accounting audits all claims against the Department by outside welfare districts for institutional and hospital care, out-of-City hospitals, and out-of-City school districts, and assembles data necessary to support claims for building occupancy costs subject to Federal reimbursement. The staff also prepares protests to Federal audit exceptions and Children's Center



school lunch reports, makes occasional test audits, and devises procedures for use in the Division of Accounting.

The director of this division has supervision of some 500 employees in the division and is paid an annual salary of \$6,650.

Projected improvement of existing procedures in this division has been deterred by unavailability of appropriations for modern office equipment.\*

**Chief Auditor** — The Chief Auditor's office (section) handles the Miscellaneous Expense Imprest Bank Account. This fund has a capital of \$100,000 advanced by the City Treasurer and is used to make emergency cash payments to relief recipients, to pay relief labor, removal expenses, certain expenses of the Division of Child Welfare, and also miscellaneous administrative expenses of the Department. It comprises 34 sub-imprest cash funds, including one kept in the Chief Auditor's office. A fund has been advanced to each welfare center (used only for emergency payments of assistance or carfare to clients or applicants), to the municipal shelters, to units of the Divisions of Child Welfare and Auxiliary Services, and to certain administrative units of the Department. These funds are reimbursed periodically with checks drawn on the Miscellaneous Expense Bank Account which is reimbursed by the City Treasury or by the Disbursing Section.

Employees' expense claims and certain vendors' claims and invoices having to do with public assistance, to be vouchered to the City Comptroller's office for payment, are also processed by the Chief Auditor's office.

This office also receives checks from various sources which are made payable

to the Treasurer of the City of New York. These checks, together with checks drawn on the Miscellaneous Expense Imprest Account for miscellaneous receipts deposited therein, are transmitted to the City Treasurer.

Copies of *Schedules of Vouchers*, indicating the appropriation codes chargeable, are furnished to the Appropriation Accounts Section and the State Claims Section for all vouchers prepared in the Chief Auditor's office, covering payments made either direct from the Miscellaneous Expense Account or through the City Comptroller's Office.

The Chief Auditor's office does no auditing, except checking the accuracy and propriety of the claims which it pays or processes for payment. The sub-imprest funds are verified periodically by the Field Audit Section. The principal duty of the Chief Auditor's office is to process miscellaneous receipts and expenditures which do not logically fit into other sections of the Division of Accounting. It also serves as a collection point, or clearing house, for reports on the financial activity of certain other sections. Although misnamed, the Chief Auditor's office does perform necessary functions, handling a variety of receipts and payments in a businesslike manner.

The "audit" of *Employees' Expense Claims* entails laborious checking of individual items involving small sums and is based entirely upon the employees' claims, there being no evidence of expenditure. Furthermore, these claims have already been examined and passed as correct by the manager of the welfare center office. The entire time of two clerks, half the time of a third, plus considerable work by the assistant to the Chief Auditor is required in "audit-

\*ED. NOTE: The 1952-53 budget provides \$25,000 for the purchase of modern accounting machines.



ing" these claims. Over a period of five months the checking of 15,800 individual claims, representing a total amount of \$51,750, resulted in disallowance of less than \$1,150, or \$230 per month. This amount is less than half the total monthly salaries of the clerks engaged in this work. The examination, if limited to a check of arithmetical accuracy and a test-check of amounts claimed against allowances, would largely eliminate the work of two clerks.

**Appropriation Accounts Section** — The principal functions of this section are: to keep the details of charges and credits to the appropriation accounts of the Department, and to reconcile the balances with those reported by the City Comptroller; to code and certify requisitions before Stores or Purchase Requisitions are issued by the Division of Supplies and Services, and before open-market orders or contracts are issued by the Division of Plant Management; to compile the detailed information (other than personal service and relief) necessary for preparation of budget requests; to prepare requests for budget transfers; and to review the rate of spending in relation to appropriation balances.

Other functions include: preparation of the quarterly schedules, to be filed by the State Claims Section with the State to obtain reimbursement for the Federal share of certain administrative expenses; audit and schedule for payment of invoices for purchases permitted to be made directly by the Department; prepare reports of accounts as called for by Department or City officials; and to determine (for the Legal and Resource Divisions) the administrative costs applicable to recovery cases and, where necessary, to testify in court in support of such costs.

It is noted that the Appropriation Accounts Reports furnished by the City Comptroller's Office are of little or no current value to the Department because the balances of accounts kept by the Appropriation Accounts Section may for numerous reasons differ from those reported monthly and quarterly by the Comptroller.

The Public Administration Service survey Report, submitted to the Department in 1950, states that functionally the Appropriations Accounts Section and the State Claims Section are closely allied, and that their separation results in substantial duplication. The present review fails to support this conclusion. The relationship between the functions of each appears remote, and the duplication of little consequence.

The Department of Welfare maintains records of its appropriation accounts (and analyses of expenditures) which are also maintained by the Comptroller's Office (although on a different basis). The Department justifies this duplication on the grounds that it is necessary in order to control expenditures and prepare Budget requests. The time of at least four clerks is required in keeping these duplicate records. Further inquiry should be made to determine whether this duplication of effort is fully warranted. It is doubtful whether the use of bookkeeping machines or other mechanical equipment in this work would be practical or economical.

**Field Audit Section**—The State Comptroller's Office maintains a record of each case in the Federal categories of assistance. The Department of Welfare furnishes the State Comptroller's Office with copies of all related relief payment rolls and reports case changes by means of the Notification of Additions and



Changes in Authorization. Based on an office review of such records, the State Comptroller's Office raises questions which are sent to the Department, via the State Department of Social Welfare, for investigation and reply. These are routed to the Field Audit Section for clearance.

The "social" auditors of the State Department of Social Welfare review case records at the welfare centers on a test basis for the purpose of determining eligibility, propriety of grants, etc. On the basis of such reviews, the State Department of Social Welfare sends lists of proposed disallowances to the Department for investigation and report; the Field Audit Section is charged with the responsibility of adjusting and reporting on them.

The Field Audit Section also reviews the composite rolls to detect and correct apparent discrepancies, and to consolidate payments so that proper Federal participation may be determined. It counts and examines the sub-imprest funds at the welfare centers about three times each year, and makes frequent visits to the centers to determine that refunds on assistance payments are being promptly and properly paid to the Miscellaneous Receipts Section. It also keeps records of refunds and recoveries for use in determining the proper disposition of disallowances by the State and reviews the propriety of proposed deductions on Home Relief payments submitted by the State.

Other duties include: reconciling and scheduling changes in the number of "dependent relatives" (case heads) included in each month's roll for Aid to Dependent Children to be submitted to the State; submitting to the Disbursing Section information for preparation of credit rolls on Federal categories, based

on ineligibility, to be given to the State; reviewing completeness of listings of additions and changes in authorizations; coding of preinvestigation rolls for the purpose of computing Federal participation; obtaining financial and statistical data on cases to be disallowed by the State; verifying results of annual hospital surveys (in re disallowances) made by the State; and conducting special surveys and investigations.

Except for the counting of the imprest cash funds and the checking of refund receipt records at the welfare centers, the work of this section can hardly be classed as auditing. Its auditors are in effect "trouble shooters" who spend the major portion of their time running down exceptions reported by the State.

It appears that no audit of the records at the welfare centers underlying the public assistance grants paid out by the Disbursing Section is made by either the City Comptroller's Office or the Department of Welfare. The authorizations for such grants are, in effect, the equivalent of checks drawn for the amounts authorized. No amount of checking at the central office is of any avail if eligibility has not been properly established, budgets have not been correctly computed, or amounts of grants or other pertinent changes have not been correctly reported to the Disbursing Section.

The fact that many errors are made, and that the records are often incomplete, is evidenced by the number of questions raised, corrections reported, and disallowances made by the State. These are principally attributable to the work at the welfare centers. Such errors are unavoidable in an operation of such magnitude and complexity and



some allowance should be made by the State for a reasonable margin of error.

Many of the case reviews made by the State at centers result in substantial disallowances that must be borne by the City, a large number of which are attributable to failure to establish original or continued eligibility in the prescribed manner. The City is paying a heavy penalty for laxness at the welfare centers in carrying out the procedures prescribed; this could be reduced by assigning persons with duties confined to reviewing propriety of budgets and verifying original and continuing eligibility. Test audits of the documents in support of the financial data concerning public assistance grants as reported to the Disbursing Section should be conducted at welfare centers.

The Field Audit Section should be charged with the responsibility of making regular audits, on a test basis, of the accounts of sections in the Division of Accounting which receive and disburse monies other than those clearing through the several public assistance imprest accounts.

**Children's Accounts Section**—The principal function of this section is to receive monies under agreements, court orders, or from other sources for the care and support of children committed to normal child-care institutions or boarding homes as public charges, and to pay over such monies to the City Treasurer. This section maintains accounts designed to show amounts due, but it does not follow up delinquent accounts. This function is assigned to the Bureau of Child Welfare. If the balance in an account is deemed uncollectible, the investigator notifies the Children's Accounts Section of the fact, as a basis for writing off the arrearage.

No bills or statements are regularly prepared or submitted directly to debtors for amounts due. Payments due are recorded in the accounts receivable in one amount for each quarter, in advance, so as to minimize the work of posting as weekly or monthly charges become due. When necessary, the charges are adjusted to changes made in the court orders, agreements, etc., and are checked by the Adjustment Unit for proper authorization and computation of the amount involved. Trial balances of the accounts receivable are taken off as a manual operation.

In new accounts, bills are forwarded to the Bureau of Child Welfare if a payment is not received within 15 days after the effective date of an agreement or within two months from the effective date of a court order. When the arrears in an account are equivalent to 6, 12, or 24 months' payments, a bill is prepared in duplicate and forwarded to the Bureau of Child Welfare, together with a notation as to the date of the last payment. No further charges are made to the account after a two-year arrearage has accumulated and it is transferred from the "active" to the "inactive" ledger file, under a separate control account. If a payment is received on an inactive account, or a new agreement or court order is executed, the charges are adjusted and the account is transferred to the "active ledger."

Numerous monthly and quarterly reports are prepared by this section for other sections and for the State.

Trust fund accounts are opened on the basis of information received from the Bureau of Child Welfare and the monies received are turned over in the same form as received by the Trust Fund Unit to the City Treasurer, who reimburses the Department from these



funds for charges incurred in the support of the beneficiaries.

The functions of the Miscellaneous Receipts Section relating to the receiving and disbursing of refunds and recoveries could be divorced from the remainder of its duties and consolidated to advantage with those of the Children's Accounts Section. If the physical location of its office were not a consideration, the Filiation Accounts Section could be wholly merged with the Children's Accounts Section. In this way, the work of receiving, disbursing, and accounting for monies received from outside sources would be concentrated in one section, which would be given a name indicative of its functions; accounts could be kept in a uniform manner by use of modern accounting machinery, with a considerable savings in cost.

At present, the accounts receivable have been balanced up to or about August, 1947. Five employees, with some clerical knowledge, are helping to bring this work up to date, but in view of the large number of postings involved, the balancing of these accounts for the years concerned represents a sizeable undertaking. The number of accounts and transactions involved warrants the use of up-to-date accounting machine equipment to keep accounts receivable in continual balance, and to perform work faster, more accurately, and at much less cost.

Balances due on inactive accounts receivable amount to about \$1,900,000. The extent to which the prescribed procedures for following up and writing off delinquent accounts are enforced is subject to question. They should be the subject of a special study, and the desirability of attaching collectors to

the staff of the Children's Accounts Section should also be considered.

The City Treasurer is the custodian of the trust fund monies and is required to keep an account for each fund. These are undoubtedly the official accounts, but under present procedure, the Trust Fund Unit of the Children's Accounts Section employs four persons (plus part time of a supervisor) who duplicate the accounts kept by the City Treasurer. The need for this duplication is not apparent, since the City Treasurer could furnish the Trust Fund Unit with periodic listings of the fund balances in his custody and the issuance of requisitions could then be made with reference to such figures. If records of these accounts are to be continued, proper forms should be provided for use, and their adaptability to machine methods considered.

**Filiation Accounts Section**—As a matter of convenience to the Court of Special Sessions and the public, offices of this section are located in the Court building at 100 Centre Street, New York. It appears essential that the records of this section be readily available to the Court, and one of its staff is required to be in attendance at sessions of the Court. The function of this section is to receive monies from putative fathers, under voluntary agreements or court orders, for the support of children born out of wedlock, and to pay them out as directed.

"Seizure Accounts" arise through the seizure of funds left behind by husbands who desert their wives and abscond from the State. The monies and securities seized are turned over to the Filiation Accounts Section for safekeeping, and payments are made from them only under court orders.



If this section were not required to have its offices located in the courts building, a considerable saving could be effected by combining its operations with those of the Children's Accounts Section. If this is not feasible, it should be made a direct adjunct of the Court of Special Sessions. In this case, it would probably be necessary to retain in the department the function of receiving and disbursing monies paid in under voluntary agreements, a function which could be combined with those of the Children's Accounts Section.

The operations lend themselves very well to the use of bookkeeping machine methods. The cash receipts and disbursements could be recorded simultaneously with the postings to the ledger accounts, and the accounts could be kept in constant balance.

**Miscellaneous Receipts Section** — This section receives, accounts for, and distributes money which is to be applied in reduction of assistance payments previously made. It may come from any of several sources and, in general, it is segregated into two classes, designated as "Refunds" and "Recoveries."

Refunds are defined as monies which represent returns or partial returns of specific payments of assistance, or, in other words, are identifiable as applying to an individual payment or payments of assistance made at determinable points of time. Recoveries are defined as monies which cannot be identified with any specific payment or payments of assistance to the clients on whose accounts they are received. They must, therefore, be considered as reducing the total amount of grants paid during the entire period, or periods, of assistance.

The work involved in classifying receipts as to type, and in computing the

Federal, State, and local participation, is difficult and time consuming. Eight persons are engaged in processing receipts and preparing *Reports of Recovery*.

The computation of the participation in recoveries is the major problem of the section, particularly in the Federal categories. The entire process of distributing recoveries is lengthy and onerous, and involves the same amount of work whether the recovery be \$1.00 or \$500.00. Three persons are occupied full time in this phase of the work but the average production per day is about three reports per employee. On the basis of the work done during the past fiscal year, a backlog existed on June 30, 1951, which represented over 75 percent of a year's work.

The Miscellaneous Receipts Section acts as both a receiving and disbursing agency. Consideration should be given to the possibility of combining its receiving activities with those of the Children's Accounts Section. If this were done, the combined volume would warrant the use of modern bookkeeping machines in preparing forms and in posting the individual accounts, with a considerable saving in clerical labor. The machine now used in posting the accounts does no more than an ordinary typewriter and, under these circumstances, manual postings could be done in less time.

The actual disbursing of money by this section is incidental to the determination of the allocation of such money. The disbursing function and the work of allocating recoveries and refunds might be transferred to the Disbursing Section where direct access to the ledger cards would eliminate the necessity for obtaining transcripts.



The Collections Unit of the Resource Division keeps some 6,000 memorandum accounts covering refunds and recoveries which are to be paid in installments. It also initiates the preparation of bills to the debtors for each monthly installment due. However, since there is no assurance as to the accuracy of the memorandum accounts, it relies on information from the Miscellaneous Receipts Section as to payments and balances. Since the amounts due from debtors are presumably enforceable claims based on agreements and judgments, they should be formally set up as charges in the accounts of the Miscellaneous Receipts Section and, if necessary, bills should be prepared and followed-up under the supervision of this Section.

It is suggested that only one check be drawn to the City Treasurer at the end of each month covering all money received for burial funds in lieu of separate checks as now issued. If the Department cannot retain custody of burial funds it would appear that proper procedure would require the City Treasurer to make direct payment of bills for funeral expenses, so that some of the existing duplication of effort in accounting for these funds would be eliminated.

The *Record of Cash Received* form is really a ledger sheet and its name should be changed. If these forms were made smaller and printed on a heavier paper stock, they could be handled and filed with greater facility. Since the accounts are controlled by types of assistance, time of bookkeepers could be saved if these forms were printed on a different colored paper for each category.

The physical arrangement of the section office is such that the cashiers'

cages are conveniently accessible from the street, but are poorly designed. Removal of glass partitions would make available additional space for better arrangement of the desks, safe, etc., and the cashiers would be in full view of their fellow employees. The glass between the cashier and the public should be replaced or painted over to a height sufficient to prevent an outside view of the counter, cash drawer, and safe.

**Disbursing Section** — The Disbursing Section produces the rolls of authorized public assistance payments, and draws and mails the checks to the relief clients. Recurring grants are paid in two equal semi-monthly payments, while special checks and rolls for single-issue authorizations are prepared each day. The checks and the rolls for all types of public assistance are produced on the basis of information reported by the welfare centers, where the documents in support of such information are kept. Unless found to be incomplete or in disagreement with existing records in the section, this information is accepted as being correct and as reflecting proper authorization.

The rolls and the checks are produced in separate operations by tabulating machine methods, carefully controlled at every step. Separate rolls are produced for each welfare center and for each type of assistance. The checks are drawn on separate bank accounts, carried in the name of the Department, and maintained for each type of assistance. These accounts are operated on the imprest system and are replenished through vouchers submitted to the City Comptroller.

The Disbursing Section also produces monthly "composite" rolls for each type of public assistance and for each wel-



fare center which set forth for each case the amounts of regular and special grants paid, expenditures for medical care, emergency cash payments which may have been made during the month, and hospitalization costs. These rolls form the basis for determining the amount of reimbursement to be claimed for State and Federal participation. The actual compilation of these rolls is, of necessity, some three months after the month covered.

The composite rolls are eventually filed to support vouchers to the City Comptroller for replenishment of the imprest bank accounts for each type of public assistance. They are also used to support claims filed against the State for reimbursements.

Duplicate sets of the punch-cards used in producing the rolls and checks each month for regular and special grants are prepared and processed in connection with the monthly statistics compiled by the Division of Statistics. Cards are also punched for the statistical actions reported by the centers on the Daily Reports of Action Taken.

The Disbursing Section also performs various other duties, some of which relate directly to the production of the rolls, checks, and "composite" rolls, while others are of a supplementary or collateral nature.

The Disbursing Section appears to be well organized, and is operated in an efficient and businesslike manner. It processes some 4,500,000 checks, and records about 500,000 changes a year. The present methods of producing public assistance rolls and checks have been carefully reviewed. There is little doubt that the IBM tabulating machine methods are those best adopted to accumulating the financial and statistical data necessary to meet the strict

requirements of the Federal and State governments.

Production at the welfare center of the punch-cards necessary to list data affecting the relief rolls is being conducted on an experimental basis in the Melrose Center. Details are given in a later section of this Report. If this change is adopted, most of the work of the Disbursing Section in connection with key punching of cards for regular and special grants would be eliminated.

Composite rolls are produced about three months after the end of the month to which they apply. The posting of payments to the ledger cards maintained for each case cannot be done until after these rolls have been run. The requirements of the State as to the items to be included on the composite rolls have created this time lag. To compile these rolls, information must be gathered from sources other than the public assistance rolls, and cards must be punched to record such information. There seems to be little possibility of reducing this time lag under present State requirements.

The preparation of transcripts of public assistance payments for the Miscellaneous Receipts and other sections requires the expenditure of considerable time and effort, without assurance that the information reported is complete or correct. Up-to-date information is difficult to get because of the time lag in posting the ledger cards. The information on these transcripts is first copied from the available records and later typewritten, thus affording opportunity for error. Elimination of the necessity for typing would reduce the possibility for error and save time.

Payments of assistance are computed on a monthly basis, but are made in two equal installments. This doubles



the number of checks produced, recorded, and accounted for during the year. The cost of such a practice seems to outweigh the undetermined amount of savings produced because payments on cases to be closed can be stopped sooner. The number of case closings for the Aid to the Blind, Aid to the Disabled, and Old Age Assistance categories are few compared with other types of assistance, according to statistics available.

If payments for these three categories were to be changed to a monthly basis, the high cost of processing about 1,000,000 checks a year would be saved plus a drastic reduction in the cost of all the involved paper work, preparation of rolls, postage, etc. The change suggested would be relatively easy to put into effect, since it would simplify rather than complicate the existing procedures.

The present physical layout of IBM tabulating machine equipment is not conducive to utmost efficiency in operation. Steps should be taken, in co-operation with IBM, to effect a rearrangement which will afford greater facility and economy in the various processes employed.

The composite roll is the only record produced which itemizes, in one place, the various disbursements and charges for each case, and which indicates the nature and amount of each. From the standpoint of the State, this is a very important record and is the means whereby it may secure maximum reimbursement for Federal participation. As a basis for determining the monthly cost of each case, however, it is unreliable because of the variance in charging assistance to months of service and to months of payment. For example: payments for medical care and care in

voluntary hospitals are taken up in the composite rolls for the month of payment, whereas charges for public hospital care are taken up in the month of service. While this treatment conforms to the methods prescribed by the State and Federal governments, it is apparent that statistics prepared on the basis of figures accumulated in this fashion would be meaningless.

**Hospital Accounts Section** — The four principal functions of this section are:

(1) To determine the eligibility of hospitalized patients for purposes of reimbursement under the four Federal categories.

(2) To prepare the accounts or charges for hospitalization on cases regularly receiving public assistance in the Federal categories in order that the State Claims Section may claim reimbursement from the State.

(3) To prepare the hospital accounts or charges of indigent patients not regularly receiving public assistance in the Federal categories, who have State or Charge-back Status, and to certify such charges to the State Claims Section for reimbursement from the State or other welfare districts.

(4) To prepare the accounts or charges for infirmary cases receiving assistance under three of the Federal categories so that the State Claims Section may claim reimbursement.

For purposes of the State's share of reimbursement, a case may receive 183 days of hospitalization (either continuous or intermittent) in any calendar year. The Federal share includes this period plus the maximum of six months immediately thereafter.

Monthly listings of charges for both public and voluntary hospital cases are



submitted to the State Claims Section as a basis for claiming reimbursement.

Hospitalization charges are frequently over-billed because discharge copies of the Hospitalization slips are received long after the date of discharge, or because full or partial payments of charges may have been received by the hospitals from insurance companies, liability cases, or other sources. Such credits due the State are reported on an adjustment schedule which is sent to the Disbursing Section each month.

The City is entitled to reimbursement for Federal participation only in the cost of Public Home and Infirmary care of persons who are eligible for assistance under either Aid to the Blind, Aid to the Disabled, or Old Age Assistance up to a maximum of \$30 a month.

The City loses an undetermined amount each year in the processing of hospital charges applicable to welfare cases. This loss arises principally from the fact that in many instances the welfare centers are not aware that cases in their care have been hospitalized until they are subsequently advised by the Hospital Accounts Section. This section is dependent upon the Department of Hospitals for its information, which is not received until from four to six weeks after the admission dates. Thus, the welfare centers are delayed in eliminating or reducing the amounts of the grants on the cases hospitalized. This delay may result in disallowances by the State for purposes of reimbursement. In other instances, reimbursement may be lost through inability to identify cases reported by the Department of Hospitals with the master file of cases under care (this being attributable to the use of aliases, and so on).

A master file of cases under care in the Federal categories, consisting of approximately 122,000 cards, is kept by the Hospital Accounts Section. Analysis showed that this master file of 122,000 cards is constantly being posted and maintained in order to establish "eligibility" for hospital cases representing only 3 percent of the total number of cases, a non-use or waste factor of 97 percent. Obviously this is illogical and costly. A better and more direct method should be found.

Consideration should be given to the possibility of expediting the transmission of information from the hospitals to the Hospital Accounts Section and, in turn, to the welfare centers, and of eliminating the necessity for keeping a master file of cases. It would seem that the volume of hospital cases would warrant transferring the investigators, now processing these cases in the hospitals, from the Department of Hospitals to the Department of Welfare. They would then work in conjunction with the Hospital Accounts Section and be responsible for clearing all cases with which they were concerned in a direct and straight line procedure.

The present method of determining "eligibility" would be unnecessary since this would be automatically established by the welfare centers in the processing of the *Hospital Admission Records* received from the Hospital Accounts Section. Changes in status of hospitalized cases could be posted by the Hospital Accounts Section from the *Daily Reports of Action Taken* to the Form M PA-15 kept for each case, instead of to the master file cards.

The section appears overstaffed. The work of processing Local Charge cases in the four Federal categories is decentralized and is divided among three



groups of employees organized on a comparable basis whose work is identical in most respects. With but slight rearrangement of the work load, the number of employees could be reduced without impairing the present output and, if certain functions were centralized, even greater reductions could be made.

Controls are not kept to determine the accuracy of the work, to assure that slips for each case hospitalized are received, or to keep from losing slips being processed. Methods should be devised for adequate controls of hospital charges to be recouped.

**Medical Auditing Section**—The principal function of this section is to process for payment all invoices from doctors, pharmacies, and other vendors for services and supplies furnished to relief recipients under the medical care program. The required authorizations, approvals, and acknowledgments of receipt of merchandise are evidenced by special forms from various sources.

The Medical Auditing Section draws checks on the Medical Imprest Account in payment of bills from doctors, nursing agencies, and pharmacies. Invoices for dentures, eyeglasses, and surgical appliances are transmitted to the City Comptroller for payment after being processed. Card records are kept of the payments made to each doctor, nursing agency, and vendor.

Within the limitations and requirements imposed upon it, the Medical Auditing Section is well operated. It handles a very considerable volume of detail, including the sorting and filing of countless authorizations, reports, special approvals, and prescriptions, with commendable dispatch. It maintains complete and adequate records, so that it can quickly determine the status

of any item, and the action taken thereon.

However, the value to the taxpayer of some of the work required of this section is open to question. Cost analysis reveals that salaries alone in the Medical Auditing Section amount to about 16 cents for every dollar paid out as a result of its work. This is only a part of the total cost. The related overhead and the cost of employees' time at the welfare centers cannot be readily estimated. The work of the section with regard to payments for physicians' services, nursing care, pharmaceuticals, and related services cannot be classed as auditing. There is no evidence, other than the creditor's statement, to establish the fact that the supplies or services were actually supplied or performed. The fiscal and accounting requirements of the medical care program appear to be directed chiefly toward establishing the need for, and authorizing, the furnishing of services and materials at, or below, approved fees and prices.

Having authorized their purchase, the program requires that the Medical Auditing Section gather evidence of this authority before the payment of claims. Many forms, varying in size, shape, and color are employed, and no claims are processed for payment until the required authorization (and very likely a special approval) is produced. Should it be missing, the charge must be deleted from the invoice, and laboriously transcribed to another invoice form, to be filed away until the missing forms turn up. Other forms are filled in and distributed in an effort to procure the original forms, or to satisfactorily explain their absence. Only in the case of invoices paid by the City Treasurer is evidence required as to the receipt of satisfactory merchandise. In other



words, all that is established in the "audit" of over 80 percent of the payments for medical care is the fact that the purchases were authorized.

Centralized control of the medical care program (as now effective) is merely perfunctory and involves complicated procedures which contribute little. A group of 15 trained pharmacists is engaged in pricing each item on every prescription for which payment is claimed, whether the charge be five cents or five dollars, but no records of savings are kept. In 1948 a test was made of a group of 600 invoices from retail pharmacies which showed that downward revisions and disallowances amounted to about 12 percent of the amounts claimed. If this figure can be considered representative, the pricing procedure saved less than \$50,000 during the past fiscal year. The aggregate annual salaries of these pharmacists, without allowance for related overhead, is about \$46,000.

Investigation indicates strongly that simplified and less costly auditing and pricing procedures could be substituted with little danger of losses through irregular payments. In sharp contrast, it should be noted that about \$135,000,000 will be paid out directly to relief recipients this year with no real audit of the payments.

Much time and material could be saved if the present Authorization, Doctor's Report, and Invoice could be replaced with a single form combining the functions of all three for any one case for one month and embodying "self-auditing" characteristics.

The process by which checks on the Medical Imprest Account are produced is cumbersome and requires the use of three special machines. Since invoices from doctors, nursing agencies, and

retail pharmacies are already processed by punch-card methods, consideration should be given to producing the checks by the same methods. As an alternative, checks can be produced complete (except for signature), together with the check register, in one operation, by use of a suitable bookkeeping machine which would replace the three different machines now used. Checks should be individual, rather than in sheets, thus eliminating the cutting process.

A new "payment card" could be designed to combine the functions of the one now used and the *Panel Card*, which are pen and ink records. Postings of payments to this card would be made on the bookkeeping machine simultaneously with the production of checks.

The Medical Auditing Section maintains its own master file, in case number order, of under-care cases, which is kept current by postings from the *Daily Reports of Action Taken*. A similar file is maintained in alphabetical order by the Hospital Accounts Section. If a combined authorization-invoice form for medical service is adopted, these new forms could be arranged alphabetically and checked against the master file in the Hospital Accounts Section, thus eliminating the duplication. Further, if the charges on monthly invoices from nursing agencies were to be listed alphabetically instead of by case number, the current status could also be readily checked against the master file of the Hospital Accounts Section.

With respect to payments to retail pharmacies, it is suggested that the reasons for disallowances be coded and printed on the back of the Analysis of Vendor's Original Invoice, which is sent to the vendor with the check. As an alternative, standard explanations could be



stamped on the forms by means of rubber stamps. It is also suggested that totals be carried forward on the invoice form from sheet to sheet and a single check be issued for the invoice total, instead of a separate check for each sheet.

The 80 different forms used in connection with authorizing and making payments for medical care create many problems for the persons who must process them for accounting purposes. Few contain instructions as to the distribution of copies. Some are not clear and specific as to the information required. The titles of some are misleading and others have no title at all. All these forms should be studied for the purpose of designing a more adequate and better integrated group.

**Day Care Accounts Section**—This section, while physically located in, and operating under, the supervision of the Division of Accounting of the Bureau of Finance and Statistics, is carried on the payroll of the Bureau of Child Welfare.

Day-care centers in the City number 104, with about 5,000 children in attendance. Approximately 85 percent of their expenditures are financed by the Department of Welfare, which supervises their operations. They are sponsored by 79 independent private agencies which are registered with, and approved by, the Department. A formal plan of operation and budget of each operating agency for the ensuing year must be approved by the Bureau of Child Welfare before it can become effective. The payrolls and expenses, over and above the income from fees and contributions by the sponsoring agencies, are originally disbursed by the centers out of working capital funds advanced by the City. On the basis of

vouchers submitted by the centers and approved by the Department, the City Comptroller's Office issues warrants in payment of the City's share. Each day-care center keeps its own accounts and must produce the financial data required to be reported to the Department. The Day Care Accounts Section receives and processes vouchers for reimbursement, makes test-audits of the accounts of the operating agencies, makes comparisons of actual with budget estimates of income and expenses, checks the eligibility, and keeps an attendance and fee record for each child (reported monthly).

The centers are reimbursed for the City's share of expenses and cost of repairs, alterations, and permanent equipment on substantiated claims submitted by them. Salaries and other expenses are reimbursed to the extent that they exceed income. Budget control is maintained by the Day Care Accounts Section on a monthly basis and through analysis of the financial operations of each center. Statistical records and the field auditing activity of the section permit close supervision and appraisal of center operations.

This section is well organized and is functioning smoothly. Its procedures are well thought out and there is no apparent duplication of effort. While all its records are manually kept, they are of such nature as to preclude the efficient use of machine methods. The partial record of attendance, based on posting one month in each quarter on the Attendance Card (Form M-874R), apparently serves no useful purpose. It involves some 20,000 hand postings a year, and should be discontinued.

**State Claims Section**—This section prepares, files, and accounts for claims made against the State of New York



for reimbursement of the Federal and State share of expenditures for public assistance, hospital and institutional care, salaries and other administrative expenses. In addition, it bills outside welfare districts for hospital and institutional care.

The work of this section is extremely complicated by reason of the requirements of law and those of the State Department of Social Welfare and of the State Comptroller's Office. These require that claims filed against the State, and the accounting records pertaining to them, be stated in terms of the Federal and State share of reimbursement, even though the City receives no money direct from the Federal government. These segregations are checked by the State. There are 26 different types of claims for reimbursement involving the preparation and processing of about 80 separate claims at the required intervals on bases which vary to a considerable extent.

Cases accepted for relief which do not have residence in the State for at least one year prior to acceptance are known as State Charge cases and the City is entitled to recoup 100 percent of assistance given, up to the expiration of this one-year period.

Claims must be filed to recoup the balance of 20 percent of relief payments made on State Charge cases over and above the 80 percent collected on the rolls in which they were included. The procedures involved are extremely complex and entail multitudinous details in establishing claim eligibility to avoid loss to the City. The status of State Charge cases must be approved by the State before claim can be made for reimbursement of the 20 percent balance. The effective date of eligibility, as determined by State procedures, has

considerable bearing on the amount of the City's recovery of assistance, in that any assistance which may have been given prior to such date may not be claimed as to the 20 percent balance. The method of establishing the effective date of 100 percent reimbursement is entirely the prerogative of the State. Separate claims are filed for each type of assistance and must be authenticated by supporting documents and records. Details of claims filed for Approved State Charge cases are completely checked by the State Department of Social Welfare.

The Hospital and Institutional Care Unit prepares and accounts for billings and claims for hospital charges concerned with Federal relief categories, State Charge cases, and outside welfare districts; and for institutional care of children on State Charge cases.

The work of this section appears to be well organized. A staff of 34 people at an annual salary cost of \$114,000 seems excessive in order to account for reimbursable expenditures and to prepare claims to secure reimbursement. However, in view of the complexities of law and the many exacting requirements of the State government, it appears that little can be done to reduce the work involved except by revising the procedures now in use.

The seven following suggestions may, to some extent, simplify the work of this section:

- (1) Since the State subsequently audits the charges billed by hospitals and institutions, its requirement for the furnishing of warrant numbers and dates could be rescinded without loss of any existing safeguards.

- (2) Consideration should be given to mechanizing the manually kept Work in Process ledger and the Claim Register.



(3) New forms should be devised for the special rolls prepared to obtain the remaining 20 percent reimbursement on State Charge cases now made up on forms not intended for the purpose.

(4) The State should reimburse for the salaries of employees whose status has not yet been approved and, if necessary, make later deductions for those not approved.

(5) The State Charge Control Sheet should be redesigned.

(6) Checks received in payment of amounts billed to other welfare districts for hospital and institutional care are entered in a cash book and are then sent to the Chief Auditor's Office with a letter of transmittal. A typed listing on a special form designed for the purpose would replace both of these writings.

(7) The method used by the State in determining the effective period of 100 percent reimbursement on State Charge cases results in losses to the City. Although the State permits appeals in cases where it can be shown that delays in documenting lack of State residence are beyond the control of the Department, no such appeals have been filed. This procedure should be adopted.

**Reconciliation Section** — This section reconciles each month the book balances of 14 of the bank accounts in the custody of the Department with those reported by the bank. In addition, it handles inquiries and complaints regarding checks reported as lost, stolen, or undelivered, and furnishes the City Comptroller with information required in connection with claims to be filed for losses resulting from forged endorsements.

The bank reconciliations as now prepared are not true reconciliations in

that to a large extent derived totals of outstanding checks are used, unsupported by any details. Sorting and listing of checks should be done monthly. Comparison of this monthly listing with rolls in the Disbursing Section would provide the amounts of the individual checks outstanding, so that a true reconciliation could be effected and errors detected.

Checks issued should be controlled and accounted for on the basis of one control account for each of the two regular monthly payment dates and one account for all checks issued on other days during the month.

For reconciling the bank accounts, other than those having punch-card checks, the Reconciliation Section should be furnished with listings of the checks drawn on all such accounts so that paid checks would be checked off against them. Lists of checks outstanding would then be prepared only at the end of the month and the long process of listing each check returned would be eliminated. The use of Form M-299, which is an unnecessary duplication of Form M-940 (Schedule of Outstanding Checks) should be discontinued.

After each regular relief payment date, numerous checks are returned to the Disbursing Section by the Post Office because of its inability to locate the payees. These are sent to the welfare centers for investigation and report, and the majority are usually canceled on the basis of such reports. The lapse of time between the date they are received and finally canceled is sufficient to make impractical the procedure which requires the Reconciliation Section to list the details of outstanding checks 18 days after date of issue.

**Payroll Section**—The Payroll Section does not prepare the regular payrolls,



nor does it write the pay checks. Its principal function is to maintain detailed records of individual employment, provide the Central Payroll Division of the City Comptroller's Office with the necessary information so that it may prepare the payrolls and write the checks, and finally to verify their accuracy before checks are drawn.

Regular payrolls are on a semi-monthly basis, and employees are paid up to date on the 15th and last day of each month. These payrolls are prepared by the City's Central Payroll Division (using an Addressograph system), and based on the last preceding regular payroll, adjusted by such changes as have been reported by the Payroll Section. In effect, regular payrolls are prepared on the basis of information which is a half-month old. If, on any regular payday, an employee is not entitled to the full amount of the check which has been drawn to his order, the check is withheld until sufficient time has elapsed for the difference to be earned.

Employees at central offices and the welfare centers are required to report their time each day by means of an IBM time-clock system, using IBM punch cards which last for the entire week. In certain other locations time is recorded by use of daily time sheets. The recent installation of the IBM clocks and time cards is the first step toward a machine-kept time-record system. At present, however, no use is being made of this equipment for the accumulation by mechanical means of data as to hours worked, lateness, overtime, or absence. With the new equipment there should be little difficulty in keeping such records to make the system fully effective.

It appears that no examination of the basic payroll records, appointments, attendance records, etc. is made by the City Comptroller's Office. So long as the payrolls bear the certificates required to be executed by the various persons concerned (bookkeeper, department head, auditor, Civil Service Commission payroll clerks, etc.), they are paid without further audit.

Under a proper application of machine methods, the Payroll Section could produce the pay checks, pay statements, and the payrolls at a considerably smaller expenditure than is now required to operate this section. At present, these are prepared by the Central Payroll Division of the City Comptroller's Office from data transcribed from the original records by the Payroll Section and furnished to this division. Since there is now no field audit of the underlying payroll records, it appears that it is costing a good part of \$158,000 a year in salaries alone to have the Payroll Section tell the City's Central Payroll Division what to put on the pay checks and payrolls. In private business, a complete payroll setup for 7,600 employees would be handled by less than half the size of that (46 persons) attached to the Payroll Section. Handwritten earnings records for a payroll as large as this are unheard of in the business world.

There is an apparent duplication of effort between the Bureau of Personnel and Office Management (which originates much of the data affecting payrolls), the City's Central Payroll Division, and the Payroll Section. The payroll methods employed by the City appear antiquated.

Although payees' endorsements on checks have long been accepted as proper proof of payment, City em-



ployees are also required to sign the payroll sheets when receiving their checks. In contrast, the assistance checks are mailed to clients and the check endorsements are accepted as evidence of payment. Yet, in paying employees, this outmoded system remains.

Accounting machines were perfected years ago to produce checks, pay statements, earnings records, and payrolls in one operation. The employees in the Department of Welfare receive no pay statements; they must get the details of their pay from the payroll sheet at the time they affix their signatures.

The "line item" system used by the City in budgeting for personal services is archaic and long since abandoned in good municipal budget practice. Under this system, some 800 lines are required in the budget for the salaries and wages of the various positions held by employees of the Department. In actual practice, employees are physically transferred as occasion requires, without the appropriate changes being made on the payrolls affected. As a result, the Payroll Section must do considerable reshuffling of pay checks and payroll sheets on pay days in order to deliver the checks to the proper locations.

In view of the circumstances under which it operates, the procedures of Payroll Section cannot be streamlined and costs reduced unless radical changes are made in the basic payroll system used by the City.\* Under the system as now constituted, nothing would be gained by mechanizing the postings to the Salary and Attendance Records, now kept manually by 26 clerks, unless the section were permitted to combine the production of pay checks, pay statements and payrolls with this operation.

Alternative suggestions are:

(a) Provide the Department with an additional imprest fund for the purpose of paying its payrolls, and authorize it to produce and pay the payrolls subject to audit by the City Comptroller's Office. This would permit the use of effective machine methods, and would undoubtedly result in substantial savings both in the Payroll Section and the City's Central Payroll Division.

(b) Transfer all record keeping with respect to employees earnings to the City's Central Payroll Division. The remaining functions of the Payroll Section, such as maintenance of leave and attendance records and the distribution of pay checks, could be carried on with a greatly reduced staff. From a City-wide viewpoint, such a change would pave the way for the adoption of up-to-date machine methods in the City's Central Payroll Division.

### Division of Statistics

In general, the welfare centers do not regularly compile statistics solely for their own use. They do, however, originate and process most of the source material used by the Division of Statistics in preparing its reports. This division issues, in mimeograph form, a comprehensive monthly statistical report comprising 47 pages, distributed to executives of the Department and to outside agencies and individuals. The large majority of the statistics included in this report are expansions of those required to be reported in summary form to the State Department of Social Welfare. In addition to this report, the Division of Statistics prepares and distributes other statistical reports to Department executives, State officials, the press, and to the Welfare Council. These total 39 over-all, and include 3

\*ED. NOTE: See Chapter IX, Section 2, for results of the Barrington study on payrolls.



weekly reports, 31 monthly reports, 3 quarterly reports, and 2 annual reports.

With a few minor exceptions, all the statistics contained in these reports are obtained as by-products of the processes by which those filed with the State are produced.

### Conclusions and Recommendations

Considerable time and money are being expended in the Division of Statistics and the welfare centers in recording, tabulating, and reporting a great variety of statistics. It would be difficult to estimate the cost of producing these data since many employees at the centers spend only part time on this work, and the salary cost of tabulating machine operators (attached to the Disbursing Section) at the central office is not segregated.

To a large extent the public assistance statistics produced are, at least dollar-wise, collections of figures which have little value since they are neither comprehensive nor accurate. Great care is exercised in compiling statistics relating to the public assistance caseload. It is an ephemeral standard and can really be misleading, for the true significance of certain of these figures is subject to serious question. The creation of the new Federal category in October, 1950, for Aid to the Disabled served to inflate the total caseload by creating new cases

out of cases under other types of assistance.

The number of families receiving assistance, which figure would be the most meaningful and indicative of trends and costs, is not being currently compiled and can only be obtained by special study.

The whole field of statistical compilation should be reviewed by the Federal and State governments with the objective of reducing required reports to really significant figures. Authorization of sample and test techniques should be made for the less important facets which now must be worked up in full detail to produce figures which admittedly are not precise nor which offer tools for worthwhile control and action. If the proposed IBM installation at the welfare centers is adopted, the required statistics at the centers can be tabulated by IBM methods, the results to be reported monthly to the Division of Statistics in summary form. Thus, the work of the Division of Statistics and the tabulating machine operators engaged on statistics will be greatly reduced and simplified. This decentralization would also afford the production of statistics not presently compiled, but which are helpful to management in determining individual caseloads in the centers, average grants by the different investigators, etc.

### PROPOSED IBM INSTALLATION AT THE WELFARE CENTERS

In process of planning, discussion, and now under operating test at the Melrose Welfare Center is a far-reaching revision of the present procedures in the initiation, processing, and flow of accounting data between the welfare

centers and the central office. The State has given its approval to the try-out of this substantial revision in routines. If adopted and introduced in all welfare centers, this will modify the present procedures outlined in this Re-



port in respect to the relationship between the welfare centers and the Disbursing Section at Central Office.

It is claimed that this revision will contribute materially to accuracy and expedition, provide helpful additional operating data and statistics at little expense, and reduce the over-all present administrative costs.

Apart from additional operating data to be tabulated at the welfare centers, the two important factors around which the revision is developed are: (1) decentralization into the welfare centers and out of Central Office of some manual and time-consuming operations now performed in the Disbursing Section; (2) the earlier and wider use in the stream of procedure of IBM tabulating machine equipment to be installed at several decentralized key locations at welfare centers. In considering saving in cost, it is necessary to point out that the cost of considerable additional tabulating equipment will not be shared by the State, which reimburses only for its proportionate share of salaries and Social Service Exchange fees.

The immediate objectives of the contemplated change are stated as being "to reduce some clerical work on the part of the social investigator and practically all of the typing operations in the preparation of Form W-316, Notification of Additions and Changes in Authorization, and Form W-135, Daily Report of Action Taken." These two forms are the controlling reports covering financial and statistical actions taken at the welfare centers, and are compiled from forms prepared manually by the investigator.

### Conclusions and Recommendations

In evaluating the proposed IBM system at the welfare centers, several

important points must be considered, both favorable and unfavorable.

Favorable points are:

(1) Elimination of errors in the financial and statistical reports will greatly reduce much time now wasted.

(2) Time of the Disbursing Section in giving effect to changes on changes will be saved. These changes will be eliminated.

(3) Time of social investigators and clerical help now spent in manual operations will be reduced.

(4) Realignment of caseloads will be helped.

(5) Means by which useful information may be readily collected will be provided.

Unfavorable points are:

(1) Considerable additional tabulating equipment will be required. The only operation in the Disbursing Section that will be affected is that of key punching, so that none of its equipment can be eliminated except key-punch equipment. At the welfare center machine rooms, however, sorters, accounting machines, reproducers, interpreters, and collators will be required in addition to key punches and verifiers. This additional equipment will involve substantial cost (not shared by the State) for rental and installation.

(2) The problem of attracting and retaining IBM key-punch and machine operators at the salary scale now in effect is a difficult one, and is a present cause of concern in the Disbursing Section's tabulating operations.

(3) To an extent, the capabilities and "know how" of certain of the top tabulating-machine personnel of the Disbursing Section will have to be duplicated in each of the several machine rooms. Intensive training, while



helpful, cannot take the place of years of experience.

(4) The work of small groups of personnel (such as will be employed in each of the machine rooms) will be seriously affected by the absence of employees on vacation, sick leave, etc. This may necessitate carrying more personnel than would normally be required. Through the flexibility afforded by a large operation, this situation can be met at a lesser cost.

(5) A peak load will be created in the Disbursing Section in processing the punch cards for changes affecting the rolls for recurring grants. These changes will be reported on one change report instead of being distributed throughout each payment cycle as at present.

(6) The composite of the punch-card files at the several machine rooms will be a duplication of those maintained in the Disbursing Section for the production of relief checks and rolls. In addition, the Disbursing Section now prepares two complete duplicate sets of cards for the payments made each month, one for statistical purposes and the other for use in compiling the composite rolls.

Up to the point now planned in detail, it is doubtful if the revision is fully justified on a sound operating and cost basis. Two extensions, however, would contribute much to operating efficiency and expedition, and at the same time put the extensive machine installation at each center to its maximum utility.

The statistical figures of cases, case-load, case action and other similar data are now assembled by the Division of Statistics at Central Office through its extensive IBM installation. If these were to be tabulated and reported by the welfare centers in summary form

(or summary punched cards) so that only the totals from the 17 centers need be included in the Monthly Statistical Report, with the dollar figures taken from the run of the payment rolls in the Disbursing Section, then installation would be fully justified. Substantial savings would then be obtained and efficiency improved by materially reducing the equipment, the work, and the cost of the Division of Statistics—especially in receiving, sorting, and running the duplicated cards of the Disbursing Section. The proposed procedures make no provision for this important use, and it is being regarded as something that might be reached in the distant future. This should be done at once, for in it lies the outstanding justification for the decentralization operation.

Another application, which should be considered in connection with the proposed procedures, is that of having the center machine rooms furnish the Disbursing Section with a complete duplicate set of cards for each cycle. These would be used to produce the relief checks and rolls for recurring grants. This application would have a far-reaching effect on the operations of the Disbursing Section and would result in very substantial savings. Since the punched cards at the center machine rooms will be an exact duplicate of those in the files of the Disbursing Section, there could be no question of differences. The Disbursing Section's present punched-card files are built up solely on the basis of information reported to it by the welfare centers.

This latter suggestion, if adopted, would simplify the work of the Disbursing Section in at least two major respects: (1) it would eliminate the



considerable task of removing changed cards from the files and substituting new ones which, under the proposed procedure, must be done under peak load conditions; and (2) it would obviate

the necessity of duplicating the cards for use in preparing the composite rolls. Those received from the centers could be used for this purpose after the relief checks and regular rolls had been run.

## THE ADMINISTRATIVE REGISTER

The Administrative Register consists of a topical index, a classification guide, and a chronological file of active Procedurals, Informationals, and Executive Orders pertaining to the operations of the Department of Welfare.

The topical index is based on key words or phrases and each item leads to a classification guide-card number. These cards list the active memoranda in the particular classification. The Procedurals, Informationals, and Executive Orders are mimeographed memoranda, issued as occasion requires with the approval of the Executive Officer. These, as well as the topical index and classification guide cards, are 8½" x 11" in size and all are filed in ten loose-leaf ring binders.

The directives are issued in sufficient quantity so that a copy is available for each member of the staff requiring them, and such copies may be retained by them as long as it may be necessary. In each location where an official register is kept, a person is designated to maintain it.

### Procedurals

These relate almost entirely to methods, routines, and policies in effect at the welfare centers, and to matters affecting employees of the Department. Those relating to the welfare centers were originally intended to supplement the material contained in the Relief Issuance Manual, Case Transfer

Manual, Unit Case Load Control Manual, and other manuals governing the operations at welfare centers. However, certain of these manuals (notably the Relief Issuance, Case Transfer, and Unit Case Load Control Manuals) have either been amended by the Procedurals so frequently and to such an extent as to make them of little or no value, or have been made obsolete by the issuance of completely new procedures.

### Informationals

These memoranda are issued from time to time to acquaint all or certain members of the staff with items of general interest, statement of policy, matters relating to conditions of employment, etc.

In cases where it is necessary to amend an Informational, it is usually done by issuing another covering only the amendment rather than a complete rewrite. In some cases, Informationals may serve to amend or supplement material contained in Procedurals.

### Executive Orders

These are directives issued to all or certain members of the staff by the Commissioner of Welfare. They cover a variety of subjects. Executive Orders requiring amendment are not generally rewritten but new ones are issued containing only the amendment.

A very fine distinction seems apparent between certain directives issued



in the name of the Commissioner of Welfare as Executive Orders and others issued as Informationals. In some cases Executive Orders may serve to amend or supplement material contained in Procedurals and/or Informationals.

### Conclusions and Recommendations

Well-designed, comprehensive operating manuals of procedures and of functions could be of considerable value and assistance in current operations, both as a guide to new employees and for reference purposes in determining current practice. The Administrative Register, as now constituted, meets neither of these objectives and it has little or no current operating value. The procedures pertaining to operations at the welfare centers are incomplete and, except for those dealing with condition of employment, etc., they do not cover operations at the central office. Because of the manner in which revisions of material in the register are made and filed, it is extremely difficult to determine what constitutes current procedure. Procedural and functional instructions are not definitely segregated in the directives.

The foregoing comments are intended to analyze and report on the value and usefulness of the Administrative Register as now constituted. In an operation of this magnitude, such a register is a necessary tool, and the phrasing, arrangement, editing, and cross-indexing is the work of specially trained and skilled procedure-writers and editors. It must be kept fresh and up-to-the-minute, not cluttered up and padded

with obsolete and superseded material. The technique of rewriting and re-issuing each release in its entirety, when amended, (removing and destroying the old) should be followed with informational "transmittal sheets" indicating pithily the nature of the change. A general, all-inclusive subject index should be supplied and kept up-to-date by new sheets. The useful format and method of keeping current can best be seen from the tax and other governmental services published by Commerce Clearing House, Prentice-Hall, etc.

The revised register should be expanded to include the procedures at Central Office, as well as those at the welfare centers. Informationals and Executive Orders should be divorced from the register. Any material in these directives which may affect the procedures in the register should be taken up as amendments to the procedures.

The Policy Committee of the Welfare Department, acting on a recommendation of the Public Administration Service, has authorized a complete revision of the Administrative Register for the purpose of making it complete and putting it in more useable form. This project has been assigned to the Planning Division of the Bureau of Personnel and Office Management. The task will require much careful consideration of the revised format and considerable work in rewriting and editing the contents. To date, largely because of lack of personnel available for this type of project, nothing concrete has been accomplished.



## MODERN OFFICE MACHINERY AND APPLIANCES

No particular incentive exists for the Department of Welfare itself to think in terms of, or to work toward, modern streamlined mechanization, with consequent labor saving and cost cutting. Here appears one of the astounding, and really paradoxical, points of State and City relationship. While the State reimburses 80 percent *for personal service*, it will make no reimbursement for machinery, equipment, appliances, supplies, etc. Thus, from the City budget angle, it can make no saving for its own account through mechanization in any budget year, unless that saving amounts to more than five times the equipment cost.

In many operations in the Welfare Department, voluminous pen and ink records are maintained and posted. In their present form it is doubtful that these contribute anything worthwhile to administration or control, especially after weighing the high cost to produce and keep such records. The reason given for many of these questionable records and routines is that the State requires or seems to require them.

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### Conclusions and Recommendations

A detailed survey should be made of all the forms, records, procedures, and processes of apportionment in use which relate to the granting, paying, and recording of public assistance. This survey should be undertaken jointly by representatives of the State and the City who are skilled in this type of work. The two principal objectives of such a survey would be: (1) to gauge the necessity and the content against the actual minimum requirements of each governmental unit; and (2) to evaluate the routines and methods employed in the light of modern business practices.

Appropriate action based on such a survey would be certain to produce very material economies in over-all administrative costs. Since practically every change proposed to be made in forms and procedures must first have the approval of the State, any program to modernize, streamline, and speed up existing procedures should be undertaken as a joint venture so that approval of proposed revisions may be readily obtained.



## SECTION 5

**INTERGOVERNMENTAL RELATIONS**

BY

INSTITUTE OF PUBLIC ADMINISTRATION

The Department of Welfare of New York City is greatly affected by various State and Federal requirements. It is the purpose of this Report (1) to describe the main relationships between the City departments and State and Federal agencies; (2) to point out the chief weaknesses in these relationships; (3) to recommend a general plan for correcting the weaknesses; (4) to suggest specific short-run and long-run measures to implement this plan; and (5) to draw some broad conclusions about the role of local government in welfare administration.

The emphasis of the study is on administrative relations rather than on policy and finance. Consequently, the general functions of the City Department are accepted as given factors, as is the general level of the State and Federal fiscal aid for welfare activities. But, on the other hand, much attention

is devoted to the impact of intergovernmental considerations on the manner in which the Department discharges its various programs and to the formulas and procedures under which outside financial assistance is made available.

Two other limitations on the scope of the Report also merit mention. One is that the connections between the Welfare Department and other agencies of the City government—i.e. intra-City relations as contrasted with intergovernmental relations — are brought into the discussion only where they are closely linked to ties between the Department and non-City agencies. The other is that the study is not concerned generally with Welfare Department administration, but only with those aspects of it which are directly connected with intergovernmental relations.

**BASIC FACTS**

The essentials of the City's relations with the State and Federal governments in welfare administration are that about seven-tenths of its welfare expenditures

(i.e. all Welfare Department outlays plus separate appropriations for hospitalized public assistance cases and foster care of children) are State and Federally financed and that the functions and organization of the Welfare Department are closely shaped by State and

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Digest from "Intergovernmental Relations in Welfare Administration," by Institute of Public Administration, April, 1952.



Federal dictates, approvals, and advice. With minor exceptions all the Department's relations with the Federal government are through the State.

### **Fiscal Relationships**

Most of the non-City monies received by the Department of Welfare are earmarked for that agency's largest program, i.e., for public assistance to needy families. Reimbursement for this activity is generally at the rate of 80 percent, both on actual relief payments and on administrative salaries. Apart from public assistance, the Department also receives 80 percent reimbursement on the salaries of child-welfare workers and administrative personnel servicing the aided programs. The chief activities without any appreciable outside support are municipal shelters for homeless persons, day care centers for children, hospitalization of relief cases which are not Federally aided, and full-time child care in foster homes and institutions.

The City receives all its welfare aid in the first instance from the State. To obtain reimbursement for appropriate outlays, the City must follow various mandates in State legislation, in the rules of the State Board of Social Welfare, and in the regulations of the State Department of Social Welfare and the State Department of Audit and Control. The claims the City presents are broken down in great detail, not only as between program costs and administrative expenses but also as to the exact amounts going to each particular case.

About two dollars out of every five which the State gives the City are obtained by the State from the Federal government under the Social Security Law. Like the State grants, these Federal subventions are based on the

amounts actually spent on individual relief payments and their administration. However, the Federal monies contribute only to four specific kinds of cases—the aged, the blind, the dependent children, and the permanently and totally disabled—rather than to public assistance in general. Moreover, there are differences in the formulas for reimbursement between the Federal grants for aid to dependent children and the other cases and, in any event, separate appropriations are provided for each Federally-supported category.

It is noteworthy that the welfare subventions are exceeded in absolute amount only by those for education (and this only in small degree)\* and that they are not surpassed at all as a percentage of total outlays on a particular function. State and Federal monies currently pay for a substantially larger portion of the City's welfare job than was the case a decade and more ago. However, local government in New York State does bear a larger percentage of total welfare costs than in all but a handful of the other states.

### **Administrative Relationships**

The role of the State vis-à-vis the City is such that the City's decisions as to who is eligible for public aid, what form that aid shall take, how large it shall be, how frequently eligibility shall be checked, and what uses may be made of official records, are all based on State standards and specifications. Furthermore, these State requirements as to *what* the City shall do, i.e., as to policies, are complemented by even stricter controls over *how* the City shall carry out the policies. Under these controls, matters of organization, personnel, proce-

\*ED. NOTE: The Budget Director has advised that they are not exceeded by education subventions.



ture, and records are mostly State mandated or at least State approved. In addition, there are linkages of a different sort in State inspection of institutions used by the City, in local handling of "State charges" as a 100 percent State-reimbursed service, and in State advisory services. In general, State charges are needy persons who have resided in the State for less than one year.

The State's relations with the City are expressed and implemented in several ways. The basic document is the State Social Welfare Law, which makes welfare administration a duty of local government and welfare supervision a duty of the State. The responsibilities of the State are discharged through the Department of Social Welfare—the State's executive agency for welfare matters—and through the State Board of Social Welfare, which makes broad rules concerning the welfare system. Most of the day-to-day relations between the State and City departments are handled for the State by a New York City Area Office. Two of the most important devices of State supervision are the Welfare Bulletins and the Local Administrative Plan. The latter, subject to State approval originally and not amendable without approval, is a detailed description of local welfare programs, facilities, structure, procedures, and administrative practices.

There are several other agencies with some kind of direct influence on the City welfare organization. One of these is the State Department of Audit and Control, which has jurisdiction over certain aspects of the City's accounting and recording procedures. Another is the local Budget Bureau, from which the Welfare Department must get approval not only of its annual general

requests for funds but also of many specific expenditures within the budget as adopted. The Municipal Civil Service Commission, through its participation in the recruitment and promotion of personnel, is also among these agencies. So is the City Comptroller, with his wide authority over various financial procedures.

The State's supervision over the City Department of Welfare is substantially affected by the corresponding relationship between the Federal government and the State. Several of the most important Federal conditions are that the grants to the states be used only for the aid of certain particular needy persons (i.e., for the aged, the blind, the dependent children, and the permanently and totally disabled), that assistance for these persons be available uniformly throughout the entire state, that no one be denied the right of applying for assistance, and that a formal fair hearing be provided for individuals dissatisfied with the handling of their cases. There are also several major requirements relative to organization, including those that the Federally aided programs be administered or supervised by a single state agency, that this agency and its local constituents operate under a merit system, and that the structure and procedures of the agency be appropriate for the efficient execution of the aided activities.

The lines along which the Federal Security Agency works to enforce its standards in the states are somewhat similar to those of the state in its relations with the city. The central device in the Federal-State arrangement is the State Plan, of which there must be one for each assistance program aided by Federal funds. These plans are detailed descriptions of the policies, procedures,



and organizational units involved in the public assistance programs. While the state has considerable latitude with respect to the original content of a plan, the whole document becomes binding on the state once it has been approved by the Federal agency. A Federal Handbook of Public Assistance Administration is an important supplement to the state plans. Most of the day-to-day Federal-State negotiations regarding New York are conducted through the public assistance, personnel, and fiscal specialists in the FSA regional office.

### **Comparisons and Reasons**

In Baltimore, Chicago, Denver, Milwaukee, Philadelphia, and the upstate cities of New York, there is the same dependence on the state and Federal governments for financial support, program guidance, and managerial control. However, in degree, there is the difference that New York City is well above average as regards the tightness of State supervision over administrative practices. This conclusion seems to hold even when New York is compared with cities where the local welfare agencies are field offices of State-administered welfare systems rather than parts of local government.

At least four factors contribute to the exceptional closeness of State control over local welfare activities in this municipality. First, the State Department of Social Welfare places more emphasis on procedural details than on program objectives. Second, the local administrative plan inhibits independent local action because changes in

organization and procedure are supposed to be submitted to the State for approval. Third, the atmosphere of the relations between State and City is largely one of suspicion and antagonism. Fourth, the auditing procedures and requirements of the State Department of Audit and Control, including its central review of information on every public assistance case in the State, contribute to the complexity of welfare accounting.

Beyond these four factors peculiar to New York City and New York State, there are broader circumstances working generally to bring local welfare administration under close State and Federal control. Probably the most important of these is the fiscal inadequacy of local governments and the consequent large-scale assumption of fiscal responsibility for public welfare by the states and the nation. A second circumstance is that the nature of public assistance is such that the operational decisions, the methods of accounting, and the formulas for intergovernmental grants are all associated with very small and numerous individual units of expenditure. Furthermore, the detailed controls inspired by the focus of welfare administration on the individual case are compounded by the fact that the states receive Federal grants-in-aid by categories. Finally, there is the great public concern with keeping chiselers off the relief rolls, and this continuous pressure makes for great stress on the detailed aspects of eligibility checking without equivalent emphasis on rehabilitation.



## MAJOR WEAKNESSES

The City Department of Welfare is in an administrative position far from ideal. Instead of being flexible and bold, the Department is encumbered by involved, fixed procedures and moves slowly in changing these procedures and in shifting its emphasis among programs. Furthermore, the agency is not sure of its basic policies, on which it lacks clear guidance from external authorities, and the limitations on its use of funds and personnel are very detailed rather than broad. Also, more stress is placed on the mechanics of determining grants and the methods of accounting than on equipping case workers to deal most effectively with their clients as individual personalities. Unfortunately, the contribution of Federal-State-local relations to these conditions is aggravated by the inherent complexity of New York City and by the internal administrative deficiencies of the City welfare agency. So far as this municipality goes, there are nine major weaknesses in the existing intergovernmental linkages.

(1) *The arrangements for State and Federal fiscal aid are conducive to intergovernmental bickering, uneven supervision, preoccupation with procedure, and excessive paperwork.* The first and second results flow from the fact that the grants-in-aid are geared to only a part of the Welfare Department's job rather than to the whole of it. The other two consequences are traceable to basing welfare aid directly on welfare expenditures, case by case and item by item, and to dividing public assistance into rigid categories. Moreover, all these conditions are aggravated by the

fact that reimbursements for administration are tied directly to administrative expenses rather than to the grants for programs.

The tug of war between the City and the State regarding availability of State aid occupies much time of both City and State welfare officials and is a source of bitterness and misunderstanding. On the other hand, the focusing of State interest on a segment of the City's job contributes to tight supervision over aided activities and makes a stepchild of non-aided functions.

Since four-fifths of each public assistance dollar comes out of the State and Federal treasuries, the State and Federal welfare agencies are forced to take an immediate interest in how each dollar is used. Similarly, since the Federal government bases its participation on four specific types of public assistance, the State must see to it that the City clearly separates Old Age Assistance, Aid to Dependent Children, Aid to the Blind, and Aid to the Totally and Permanently Disabled from one another and from Home Relief and Veterans' Assistance. Furthermore, involved supervision arises also from the fact that the reimbursements are based on applying complicated formulas to individual cases rather than on total expenditures in each category.

(2) *The welfare program of the City, i.e., the general directions of its welfare work, is determined too much by State and Federal requirements and too little by its own appraisal of what should be done.* Such essential policies as the level of need which establishes eligibil-



ity, the extent to which contributions are required from relatives, and the nature of the family relief budgets, are all imposed from outside. Furthermore, State law and regulation require the City to accept State-certified agencies for the foster care of children, to provide for the medical care of needy families, and to undertake various other specific activities. Also, one finds a crucial general influence on the content of the welfare program in the circumstance that outside monies are available for some things but not for others. The City, by and large, is guided by the same directives as apply to upstate communities and rural areas, and there is generally little leeway for local initiative without State approval.

The State and Federal governments are so interrelated that few requirements can easily be tagged as primarily one or the other. Although all the City's immediate supervision comes from the State, many of the public assistance mandates represent the State's implementation of Federal policies. However, the State controls generally seem to go further in defining local welfare activities than Federal requirements alone would necessitate.

(3) *Local welfare operations, both as to routine activities and new decisions, are subject to too many layers of control.* For the Federally-aided programs the major steps in the chain of command upward from the case worker are the welfare center and central office in the City Department, the area office and Albany office in the State Department of Social Welfare, and the regional office and Washington office in the Federal Security Agency. Furthermore, within each of these major links in the chain there are several levels of hier-

archy through which most matters must clear.

This process of carrying numerous small points up and down the administrative line has many specific faults. It is wasteful of executive talent and technical expertness and constitutes fertile soil for buck-passing. It makes decision-making a slow and painful undertaking, with unbelievable amounts of time spent in conferences and correspondence. Beyond this, the decisions finally reached are often unclear, over-complicated, and ill-timed. Above all, this system violates the principle that operational decisions should be made at or near the scene of operations.

These things show up most clearly within the City Welfare Department itself and in the connections of the State area office with the City Department and with Albany. The area office, which concerns itself too much with fine points and answers too few City questions without checking with Albany, is in this situation because of its mission and administrative environment. Since the supervision of one welfare district is the office's entire job, its interests are not distracted from details as are area centers having a number of districts to supervise. Furthermore, because New York City is so large, the pressures on the Albany office to hold close check on area-office discretion are often overpowering.

(4) *Communication within the public welfare pyramid is excessively complicated and poorly organized.* Neither the City nor the State has a satisfactory manual of regulations and, consequently, both have to rely on cumbersome makeshift arrangements for transmitting orders and information. The Federal government is better situated, in that its Public Assistance Handbook



explains with reasonable adequacy the administrative and program requirements which must be provided in State plans.

Most of the regulations and recommendations of the State Department of Social Welfare reach the local welfare districts through a series of mimeographed bulletins, of which 153 are now in force. These releases are not well integrated, frequently do not distinguish orders from advice, and are often too long and too complex. Such conditions are partly at fault for the inadequacy of the City's intradepartmental communications through the so-called Administrative Register. Poor communications aggravate the confusion already rooted in multiplicity of supervision.

(5) *The organization of the City Department of Welfare, i.e., its structural arrangement, is controlled too tightly by the State.* The City ordinarily neither establishes new units nor abolishes old ones without State approval. Moreover, grants-in-aid and general regulations greatly affect the organization of the local agency in that they shape work emphasis and work procedure.

Because it is subject to so much outside influence, the City Department frequently has to move too slowly in making organizational changes. Similarly, it has to maintain a more elaborate staff for certain control and accounting functions than would be required by its own needs alone. Also, administrative structure is an area in which State wishes regarding Welfare Department affairs and the wishes of central executive agencies of the City government sometimes conflict.

(6) *Personnel management in the City Welfare Department is greatly complicated by the Department's relation to the State and to other City*

*agencies.* Through the Department of Social Welfare, the State establishes personnel quotas for each major unit of the City Department, approves the qualifications for each position, reviews the personal history data for each new professional employee, and passes on intradepartmental promotions and transfers. In the same field, the Municipal Civil Service Commission has a service relationship with the Welfare Department. Furthermore, the City Bureau of the Budget through its line-item-budget veto, has a great power over the creation of new positions and the filling of vacancies. Finally, the Federal Security Agency and the State Civil Service Commission ought also to be mentioned, the first because of its merit system standards and the second because of its general authority over municipal civil service.

Under the impact of these unsatisfactory relationships, personnel management in the City welfare agency places too much emphasis on checking compliance with prescriptions from outside and on correspondence and conferences concerned with modifications in these prescriptions. Concomitantly, there is too little time and authority for employee training, for steps to improve morale and reduce turnover, and for sensible realignments in personnel distribution. To the extent that this misplaced stress grows from the policies of non-City agencies, both the Federal and State governments are at fault—the former for insisting that the State welfare agency be responsible for enforcing personnel standards and the latter for carrying its enforcement further than the Federal Security Agency requires. However, much of the difficulty stems from the City's own managerial



practices and from the clash between these and the State controls.

(7) *Beyond their effect on structure and personnel, Federal conditions and State requirements contribute also to the complexity and rigidity of procedure, i.e., of the mechanics of doing things, in City welfare administration.* This result follows fundamentally from the division of public assistance into categories and the direct effect of each dollar of expenditure on size of grant. It arises more immediately from the Federal prerequisites for aid as outlined in the Public Assistance Handbook and from the State's instructions in the welfare bulletins. It is likewise connected with the State and City administrative plans.

The particular procedures mandated by the State, sometimes under Federal urging, cover the entire range of welfare work, though most intensively for public assistance. Thus, methods of determining eligibility, calculating relief payments, keeping case records, and claiming reimbursements are all prescribed in detail. Much attention is given also to accounting, statistics, reports, and forms. Too often these mandated procedures, designed for the whole State, are not well suited to New York City.

(8) *Despite the closeness of their relations respecting administrative matters, the City and State welfare agencies do not work well together in the formulation of major policy.* For one thing, both City and State are so preoccupied with negotiations concerning pressing operational details that big issues tend to be seen in the light of small points and to be neglected until immediate action becomes imperative. Secondly, the emphasis which both parties place on day-to-day financial rela-

tions is not conducive to joint long-range planning. Thirdly, powerful emotional barriers to the free exchange of ideas have developed from the mutual distrust of the City and the State.

The value of the State association of district welfare commissioners as a channel for co-operative planning is smaller for the City than for Upstate. Furthermore, the State Board of Social Welfare practice of getting information on New York City almost exclusively through the State Department of Social Welfare, with little leavening from direct contacts with City officials, limits the usefulness of the Board as a forum for discussing City problems. The local welfare agency likewise has been at fault, for it often has held back too long in seeking the State's counsel on fundamental issues and has spent too much of its energies in the City's general campaign for larger fiscal aid from the State.

In all of this, the underlying missing factor is recognition of the fact that the City and State are inescapably in the same boat. On the one hand, the City cannot function properly in isolation from the broad standards and general guidance of the State. On the other side, the State cannot properly discharge its responsibilities without heeding local opinions and permitting substantial local discretion in operation.

(9) *As presently carried out, State and Federal audits of City welfare activities tend to breed intergovernmental misunderstandings and to obscure major deficiencies by overemphasis on minor failings.*

There is apparently a widespread feeling that welfare officials are incompetent and welfare recipients dishonest, a feeling that creates pressures for



detailed investigations and spectacular "crack-downs." Another factor, here as elsewhere, is the concern of the higher levels of government with the small details of local welfare activity rather than with its broad directions only. Finally, there is an unfortunate assumption that State and Federal welfare judgments are better than local ones simply because they are State and Federal.

The State Department of Social Welfare bears the chief responsibility for the review process. However, the Federal Security Agency does some direct field auditing and the State Department of Audit and Control checks the legal and fiscal correctness of welfare expenditures. Hence, the audits of the City Department are not only close as to detail but multiple as to sponsoring agency.

## NEW APPROACHES

More than piecemeal action is necessary to correct the intergovernmental-relations problems of the City Welfare Department. Somehow, the whole system of relationships must be reoriented to cut down on inflexible programs, duplicate administration, complex procedures, unclear orders, unreasonable audits, and bureaucratic feudings. There are six possible directions for such a reorientation:

(1) The City could free itself entirely from State and Federal grant-in-aid requirements through undertaking to finance all its welfare activities with its own funds.

(2) State supervision could be bypassed through establishing a direct City-Federal relationship, with the State either pulling out of the picture entirely or confining itself to a lump-sum grant.

(3) Federal administrative and program requirements could be eliminated by the State's getting along without Federal welfare monies.

(4) The State could completely take over the administration of public assistance and thus drastically reduce the City welfare job.

(5) The autonomy of the City Department could be increased through shifting State and Federal supervi-

sion from administrative details to program objectives.

(6) As a compromise between (4) and (5), the State could handle the disbursing and accounting aspects of public assistance while leaving the City responsible for case work.

The first three courses listed above represent extreme measures. All of them would do away with at least one level of welfare supervision and one would cut out both State and Federal participation. While each approach would simplify and loosen the administrative bonds surrounding local welfare activities, each would also entail very serious practical difficulties.

As between the fourth and fifth possibilities listed above, this Report is convinced that Approach 5 is by far the best for New York City. The advantages of this approach are as follows:

(1) Most public assistance activities must actually be performed locally regardless of what level of government is responsible. Handling these local activities through local government provides the best opportunity for relating them properly to the differences from locality to locality in minimum living standards, in capacity to pay for public welfare,



and in critical environmental circumstances like population density.

(2) Citizen interest in public welfare is likely to be greater when local government has a large voice in its administration than when it is State dominated. With local autonomy, the citizen feels nearer to the site of welfare decision-making and his pocket-book is more clearly and immediately affected.

(3) As responsibilities of local government, public assistance and other welfare functions in New York City are more cohesively organized than they would be with public assistance in State hands. In the latter situation, the various interrelated activities which are now brought together in the municipal welfare agency would be split between the State and the City, and the important ties between public assistance activities and the municipal health, hospital, and police services would be organizationally more difficult. (There have been few if any serious proposals that the State take over all welfare operations. In states where public assistance is now state-administered, the local governments still have their own departments for other welfare activities.)

(4) Wider local discretion in welfare administration would entail a more modest shift from existing arrangements than would a move toward State operation of the public assistance program. Consequently, the confusion and lost motion of administrative reorganization would be less in changing toward local autonomy.

(5) Modification of welfare relationships toward larger local power would be consistent with maintaining local government as a major channel of public action in American democracy. State administration on the other hand would be a further step in the process of whittling away local self-rule through transferring first

this function and then that to higher levels of government.

### **More About Local Autonomy**

As envisioned here, local autonomy under State supervision would mean City responsibility for the ways in which welfare activities are executed, State responsibility for enforcing a few key policies and for technical assistance, and Federal responsibility for requiring State observance of broadly drawn standards of eligibility, adequacy of care, and merit system administration. The City would be largely on its own as regards program details, administrative structure, methods and systems, and the use of personnel. All the welfare agencies would work together more closely than at present in policy-making.

Building this system of local power under State overseerage will be a capital task of administrative and political statesmanship. It will entail a major downward shift in operational control in welfare administration, from both the Federal and State governments to the City. Plainly, this is not a shift that can be made solely by New York City or even solely for it; rather it is a change which must be accomplished chiefly through outside action and which will affect welfare throughout the State and beyond its borders. The specific measures recommended here are of two sorts—those which could be put into effect without a major overhaul in the present underpinnings of Federal-State-local relations and those which are of a more fundamental character. The general effect of all these steps would be more efficient administration, more realistic policies, and hence better welfare services for each dollar of welfare expenditure.



## SHORT-RUN RECOMMENDATIONS

Nine steps are recommended for improving intergovernmental welfare relations without revolutionary changes in existing Federal-State-local arrangements. These steps would not disturb such fundamentals as relief categories, Federal supervision through State plans, Statewide assistance standards, grants based on expenditures, and State determination of assistance policies. All of these could be effected without amending the Federal Social Security Law.

Because of constitutional and statutory factors, the State Department of Social Welfare would bear the heaviest burden for carrying out these short-run recommendations. However, initiative by the City welfare agency in furthering internal administrative improvements and in developing constructive suggestions on State-local relations would help create a favorable environment for State action. Federal administrative co-operation would also be important at various points.

(1) *The State and the City should work together more closely in formulating welfare policies.* One step would be for the State Board of Social Welfare to invite the City Commissioner of Welfare to present his views in person on appropriate occasions. A second move would be more frequent and more regular meetings of the State and City Commissioners. Another important step would be less preoccupation with getting larger fiscal aid and more concern with bettering State-local administrative relations on the part of City welfare officials.

Closer relations should be maintained through day-to-day practices indicative

of mutual confidence and respect. Both the City and the State should seek each other's opinions for their inherent value rather than as unavoidable clearances. Both parties should give up the overworked habit of demanding that minor rulings and commitments be put in writing merely to get protection against each other. And, in public discussion, both should show more restraint in their criticisms and more recognition that welfare administration in New York City is a joint responsibility.

The State and Federal governments also need to improve their relations in policy formulation. In determining the broad outlines of City welfare activities, State-Federal planning is probably even more important than State-City. Barriers between State and Federal officials should be broken down by measures analogous to those suggested for State and City. These arrangements should include provision for the great municipalities like New York to have some voice in national welfare planning.

(2) *The State should broaden its grants to local governments to cover all welfare programs.* This would mean State reimbursement for child welfare, hospitalized home relief cases, and adult institutional care. The present pattern of State aid for some things but not for others is the result of historical developments rather than of currently logical distinctions. To revise the system, some legislative changes will be necessary.

The rate of State aid should be the same for all activities, newly included as well as old, but no recommendation is made as to what that rate should be.



If the new functions were brought in at the 80 percent rate presently applicable to public assistance, the grants for the activities now excluded would represent additional money. On the other hand, the rate of State assistance could be lowered as the coverage is extended, with the result that the City would receive the same amount of State funds as at present but would be enabled to apply them to a wider range of functions. While the fiscal needs of the City argue for extending coverage at the present rate, the difficulties of reconciling wide local discretion with heavy State financing suggest that local autonomy would be better served by lowering the percentage of State participation while broadening its area.

(3) *The State should abandon local administrative plans and detailed procedural requirements as controls over welfare district operations.* As a substitute, the State should establish general objectives and limitations for the localities through clear-cut Statewide regulations. The City welfare agency would be free to organize and operate as it saw fit, subject only to the specifically prescribed goals and restrictions. The State would limit its concern with local details to advisory activities, going beyond this only if the City failed utterly in its minimum responsibilities.

These moves toward broader and simpler State-administrative controls could be facilitated by the City itself and by the Federal Security Agency. The most important municipal step would be curtailment in the item-by-item veto power of the Budget Bureau. Federally, a revision of State-plan requirements toward less detail would be helpful. The abandonment of local plans would, incidentally, have to be legislatively authorized. However, the relinquishment of local

plans for control would not necessitate giving them up for other purposes. They should continue to be used in programming and organizing, but as internal tools only.

(4) *The State Department of Social Welfare should develop a better system for communicating its orders and advice to local welfare districts.* Mainly, this would entail replacing the bulletins with a new Social Welfare Manual. This document should be simple, should be set up according to an over-all plan, and should clearly distinguish regulation from recommendation. It should be comprehensive without being detailed and should be divided into several parts to facilitate its use by different specialists.

With well-organized instructions from the State, the local Department would be better able to reduce the bulk and complexity of its internal communications. Similarly, there would be less occasion to question the State on points of detail and thus City-State correspondence would be lessened. To maximize these advantages, changes in State instructions should be kept at a minimum, for nothing confuses operations more than new directives following one another in endless succession.

(5) *State controls over personnel management in the local welfare Department should be broadened and simplified.* First, the quotas on employees in the various units of the agency should be abandoned in favor of a single quota for the entire organization. (The quota would be broken down by types of employees—caseworkers, clerks, typists, etc.—but not by organizational units.) Second, the State should give up its review of the qualifications of each new City welfare employee and its clearance of promotions and transfers. In general, the



State should proceed on the principle that the Municipal Civil Service Commission, as supervised by the State Civil Service Commission, is the right vehicle for the enforcement of merit system practices in the City Welfare Department.

These revisions would leave the State Department of Social Welfare with three main personnel-controlled functions. First, it should satisfy itself that the City's regular Civil Service machinery is in accord with Federal standards. Second, it should approve minimum qualifications for the professional social-welfare positions. Third, it should spot-check the City welfare agency to see that actual personnel practices are in line with those professed. (The State Civil Service Commission might perform the first and third functions on behalf of the State Department of Social Welfare. However, under existing Federal statutes as interpreted by FSA, a complication here might be the Federal insistence on enforcing its standards through a single State agency.)

Aside from their control relationships, both State and City should strive more positively to improve morale, reduce turnover, and attract high-caliber employees in local welfare administration. This would entail more in-service training, simpler casework procedures, and greater stability in work assignments. It would be furthered also, for welfare as part of the whole City government, by taking personnel powers out of the local Budget Bureau and by improving the recruitment activities of the local civil service.

(6) *The State's technical and advisory services for the local welfare districts should be enlarged.* More research and expert guidance would be helpful in such areas as child welfare, medical care,

rehabilitative activities, resource analysis, and institutional care, to mention but a few. The same would be true of such administrative fields as organization, program planning, methods and systems, records management, and public relations. However, it is important, on the one hand, that technical aid be clearly distinguished from control and that it be available but not forced; on the other hand, the attitude of the localities needs to be one of eagerness to receive help rather than reluctance.

(7) *In its reviews and audits, the State should shift its emphasis from rectification of past errors to education for future improvement.* Outright dishonesty and flagrant maladministration should, of course, be dealt with severely, through personal disciplinary action as well as through withholdings. But well-intentioned errors of judgment, remedial gaps in documentation, and technical violations of procedures ought to be handled largely through constructive criticism. The focus of reviews and audits should be on what has been accomplished rather than on how.

First, through keeping fiscal control organizationally separate from technical guidance, audits to discover misappropriations of funds should be more clearly distinguished from educational case reviews. Second, in calculating amounts of State aid to be withheld, the State should follow the Federal practice of not penalizing the locality for errors made in good faith. Third, local administrative operations should be reviewed more frequently, but for assistance and training rather than for control. Fourth, the welfare districts should be exactly informed as to the kinds of deficiencies that will result in fiscal penalties.



This Report recognizes the fiscal responsibilities of the State's welfare officials for the proper expenditure of State funds. However, these responsibilities are not best discharged through elaborate control machinery to check and double check expenditures to the last cent. Such preoccupation with detail is not good business practice; it obscures the forest for the trees and ultimately bogs down a program with an unbearable burden of red tape.

(8) *The line of authority between State and City welfare agencies should be made direct from commissioner to commissioner.* The present State Area Office for New York City would become the New York City Office of the State Commissioner. In this new status, the office would continue with fiscal auditing, advisory case reviews (maintaining a clear distinction between fiscal audits and advisory reviews), technical services, institutional inspection, and interpretation of State regulations. But, being no longer a unit with its own delegated powers, it would not in its own name issue formal instructions to the City, make decisions respecting withholdings, or handle policy negotiations. These latter functions would be responsibilities of the Commissioner himself, with the local personnel being kept informed and being available to assist and advise the Commissioner. In short, the local State office would be shifted organizationally from a command to a staff position.

There are two main reasons why the present arrangement is unsatisfactory. First, because of New York City's size, the area office represents an illogical

administrative barrier between the State Commissioner and two-thirds of the work which he supervises. Second, the existence of the office as a command jurisdiction encompassing just one operational unit is contrary to good organization. Shifting the area center to staff status would answer both these objections. Furthermore, because the objections are unique to this City, the shift would not be inconsistent with leaving command powers with the area offices elsewhere in the state.

With State-City welfare relations set up on this new basis, the top officials of the two agencies would be likely to recognize a broader responsibility to one another. It would be easier for the City Commissioner to see the value in State policy leadership and for the State Commissioner to observe the importance of leaving the City a free hand in operations. In short, the State Commissioner would look on the City welfare executive as his real deputy for New York City.

(9) *The City should submit to the State a detailed plan for implementing the recommendations made above and for other appropriate steps toward better State-local welfare relations.* This plan should be drawn up by the City Welfare Department, with assistance from outside if necessary. It should be made ready as soon as possible and should become the basis first of comprehensive State-City discussions, and then of concrete action. Meantime, however, neither the State nor the City should delay in putting into effect as many of the above proposals as can be effected without further joint analysis.



## LONG-RUN RECOMMENDATIONS

The other recommendations of this Report contemplate changes in various fundamentals of the present national welfare system. Their effectuation will involve wide debate, great pressures from interest groups, substantial changes in legislation, and complicated problems of implementation. In the main they involve matters which have been long discussed by politicians, public welfare officials, and analysts of public administration. In view of these facts, the six proposals in this section are set forth more as general opinions than as detailed suggestions, although the final recommendation is to a degree an exception to this statement. As a procedural suggestion, it is urged more strongly and immediately than the other proposals.

(1) *In setting conditions for welfare grants-in-aid, the Federal and State governments should rely primarily on minimum standards of assistance and administration.* One difference between this system and the present one would be that the states would permit local variation in assistance rates and administrative practices above state designated floors instead of requiring the same assistance levels and procedures in all localities. (The "local equivalents" under the present Statewide standard in New York are variations in the items making up the assistance budgets but not differences in the levels of assistance.) Another difference would be that the administrative conditions attached to the Federal subventions would be a few specific requirements rather than the blank-check conditions now possible under the Social Security Law. A third

variation would be that the states would have to meet Federal minimum assistance standards (they would of course be permitted to exceed them) as a condition for Federal reimbursement instead of being completely free to write their own tickets.

The purpose of this change to minimum standards would be to reconcile broader discretion and wider variety in local welfare operations with national and state floors of service and administration. At present, too much mandated uniformity of program content within each state and too much mandated uniformity of administrative detail both statewide and nationwide go hand in hand with the complete absence of national unifying requirements as to minimum levels of assistance. This Report's proposal would leave the localities free except for the state minimums and the states free except for the national minimums to establish their own standards of care and methods of administration. While the states would become subject to national assistance floors, both they and the localities would have more administrative authority than now and the localities would also have a larger role in determining their own welfare policies.

Four essential features of the system envisioned here remain to be mentioned. First, in view of regional differences, the Federal and state minimums would not necessarily be uniform throughout the nation or state. Second, the grant-receiving jurisdictions would bear the full cost of all supraminimum outlays, on either assistance or administration. Third, within each community and as



determined by it (subject to the state minimums), welfare policies and procedures would be fixed (applicable to states where welfare is locally administered). Where the states themselves administer, they would set the fixed standards as at present, subject to the Federal minimums.) Fourth, the minimums should be set forth in the simplest possible terms, with clear statutory limitations on administrative discretion in interpreting them.

The transition to minimum standards should begin with the Federal Security Agency and the Social Security Law. The fundamental step would be a revision of the public assistance titles of the law to substitute specific for general administrative conditions, to make clear that statewide uniformity in assistance levels and administrative practices is not required, and to provide for Federal minimum standards of assistance. However, even without these changes in the law, considerable could be accomplished through modifying FSA enforcement policy toward less detailed administrative requirements and away from compulsory statewide uniformity. If neither the statutory nor administrative changes take place in Washington, then the states with locally administered assistance programs could themselves undertake to move toward minimum standards and local variation on an intrastate basis.

(2) *The formulas for welfare grants-in-aid should be geared less closely to welfare expenditures.* Steps in this direction would considerably relieve the fiscal pressures toward tight supervision. The possible ways of loosening up the linkage range from the mere substitution of composite outlays for individual outlays in calculating subventions to the complete elimination of expendi-

tures as a grant-in-aid factor. Three specific alternatives to the current public assistance formulas are presented first.

(a) The subventions could be calculated from the sum of all assistance expenditures (one figure) rather than from the expenditures on each individual case (thousands of figures). This change could be effected merely by defining matching expenditures in terms of all assistance recipients, instead of individual recipients (i.e., all those being handled by a particular grant-receiving unit).

(b) Number of recipients could be substituted for magnitude of expenditures in determining the subventions. One way of doing this would be to base the grants on some fixed dollar rate for each recipient, with amounts granted being calculated simply by multiplying the number of individuals on relief by the rate.

(c) Both expenditures and recipients could be eliminated as grant-determining factors through basing the subventions on general economic and social criteria. These would be such things as extent of unemployment, amount of chronic dependency, and number of low-income families, i.e. facts directly related to the volume of public assistance but nevertheless one step removed from it.

These possible changes in the grant-in-aid formulas need to be related to other fundamentals of the tri-governmental system of public assistance. One thing worth noting is that the present case-by-case formulas are rooted in the Social Security Law. Another significant point is that the rate of payment under any scheme of calculation must be geared to the assistance standards. A third pertinent matter is that the expenditure grant linkage should be relaxed for administration as well as for assistance proper, probably through tying administrative subventions to "program" grants.



Turning from public assistance alone to public welfare as a whole, one finds another approach to loosening the bonds between expenditures and grants-in-aid. The essence of this approach is that intergovernmental subventions be broad in coverage rather than narrow, and that major segments of state or local governmental activity (or perhaps even the entirety of it) be encompassed by one master grant instead of numerous special-purpose transfers. In its moderate form this policy would mean for public welfare that the whole field would be covered by one subvention, with allocations of funds among programs being made by the grant-receiving jurisdictions, subject perhaps to a few broad conditions. The extreme form of the policy would make public welfare but one of several major functions comprehended by a single grant and hence would widen even further the discretion of the states and localities in deciding how grant-in-aid funds are to be spent. These block grants would be a firm solution to the problem of inadequate local discretion in administering centrally aided programs, though at the risk of possibly excessive sacrifice in state and national harmony on fundamental objectives. This Report believes in block grants in their moderate form as the proper eventual basis for intergovernmental fiscal relations, but sees a more feasible immediate course for public welfare in moves away from expenditure-based formulas within public assistance.

(3) *Another change in the grant-in-aid formulas should be toward varying the size of grants inversely with differences in state and local fiscal capacity to support the welfare programs.* These differences in grants due to variations in capacity to pay should be distinguished from differences arising out of

dissimilar needs. While differences of the latter sort are characteristic of the present formulas as well as of the alternative arrangements outlined above, variation in accord with capacity exists only by indirection of the current system, and was not particularly envisioned in any alternatives so far described. (Under the Social Security Law, the percentage of Federal participation in public assistance is heavier where individual relief payments are small than where they are large. Since the poorer states usually are less generous with relief disbursements per recipient than the richer, there is a tendency for Federal participation to be larger where state fiscal resources are smaller.) The purpose of instituting variation of this sort would be to even up the financial potential of the grant-receiving jurisdictions and hence to insure them equally free rein, as regards fiscal pressures, in adapting aided programs to local conditions.

There are several ways in which variable fiscal capacity could be introduced into the welfare formulas. One method (in the same vein as one of the devices for relaxing the connections between expenditures and grants) would be to adjust the amounts for transfer, as determined by need only, by some general economic criteria such as per capita wealth, per capital income, or ratio of relief recipients to total population. Another approach would raise the subventions as welfare outlays became larger in relation to basic fiscal power, the latter being indicated by measures like total expenditures on all functions, total assessed property valuation (as equalized), or total of personal and corporate incomes. As between these two general methods, the former is in a theoretical sense the better because it would not



reinforce or reintroduce the direct connection between welfare outlays and welfare subventions. On the other hand, so long as expenditures are actually used in determining need for outside welfare monies, the second course is probably the more practical.

(4) *The division of public assistance into categories should be ended through revision of the Social Security Law and appropriate complementary action within the state.* Even without other changes, this move would do away with a considerable part of the procedural complexity now plaguing public assistance operations. It would no longer be necessary to divide destitute persons into six arbitrary compartments in verifying their eligibility, keeping their records, preparing their checks, and accounting for the cost of their care. With categories abandoned, the Federal grants would cover all public assistance and there would be one formula for calculating the reimbursements due the states.

From the viewpoint of good administration, there are no real arguments against doing away with categories. Yet it will take a hard struggle against strong opposition to accomplish their demise. Public assistance by category has strong interest groups whose members believe they would suffer from a consolidated program. Also, many welfare officials feel that categorization has furthered their case in getting appropriations, on the grounds that legislators and the general public are more inclined to spend for specific groups than for needy persons in general.

(5) *Federal supervision over public assistance grants should be based on explicit conditions rather than state plans.* Thus, instead of requiring the states to submit their whole assistance

process for review and approval, the Federal government would indicate its requirements specifically and positively. These requirements should be few in number and mild as to their restraints on state discretion. They would express the standards which the states would have to observe in order to obtain Federal aid. So long as the states were in harmony with these standards, they would be free to handle their assistance activities as they saw fit.

Paradoxical as it may seem, the shift from state-initiated plans to Federally mandated conditions would mean an increase in state power. At present there are actually conditions as well as plans, with the former being presented as arrangements which must be (or must not be) provided in the latter. Furthermore, with state plans replaced by explicit requirements, the states would no longer have to get Federal approval for changes in policies or procedures. Finally, with the conditions limited to those clearly stated in law or regulation, the opportunities for step-by-step increases in Federal demands or for asking one thing in one place and another some place else would be curtailed.

(6) *The Federal, state and local governments should join hands in a comprehensive examination of the long-run intergovernmental problems of welfare administration.* The relations of New York State with its local welfare districts and with the Federal government would make an excellent pilot study along this line. The State Board of Social Welfare should take the lead in promoting the establishment of a tri-governmental body to make this survey and to suggest an appropriate course of action. A Federal-State-local body is proposed in the conviction that prob-



lems of interrelationship are best attacked by the co-operative efforts of all parties to those problems.

The organizational arrangements of a tri-governmental welfare commission are mainly matters to be handled during the process of its creation. However, by way of tentative opinion, it is suggested that this body should be equally divided among local, State, and Federal representatives and that the membership should be comprised of both public

welfare officials and well-informed laymen. It is proposed further that the organization should be tri-governmentally financed and should have a professional staff. With New York City representing some two-thirds of all State welfare activities, considerable of the local representation should be drawn from it. During the deliberations of the commission, the various long-run proposals sketched out here might be subjected to more searching examination.

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## SECTION 6

# ACTION OF THE MAYOR'S COMMITTEE

### Procedures and Routines

(1) The Mayor's Committee endorses the general line of recommendations in the McKinsey Report, especially with respect to reduction of routine clerical work and the "make ready" of the social investigators, and commends them to the Department for action. Anything that strengthens the work of the investigator in the field is all to the good. We find that the feasibility of applying work measurement to the social investigator's job has been established by the engineers, and urge that the Department undertake the time-study program outlined by the Report, employing qualified engineers on a breakdown of elements of the job and following the recommendations on the units of measures to be used and the way the standards should be set. Such a program will produce more usable results than the present use of "case weights," which show that one kind of case or visit takes more

or less time than another, but do not set forth how long the work *should* take.

(2) We recommend that a second Civil Service grade be reactivated for "social investigator" to provide incentive for those whose skill and interest lie primarily in field work. (We note that the Griffenhagen plan called for only one grade—"social worker"—and call this to the attention of the Classification Bureau to be established to implement the Griffenhagen plan.) Also, more time should be spent on training the social worker, chiefly through on-the-job-guidance by the unit supervisor. In this connection, the Department should make a special study of the causes of the very high turnover in this class of employees. Systematic training for supervisors is also needed.

(3) While we find that in general the type of equipment used to prepare statistical information is adequate for the work performed, the methods of com-



piling activity statistics are expensive, and parts of the statistical reports have apparently outlived their usefulness. We call attention to the suggestions along these lines in Section XIV of the Barrington Report, as well as to suggestions made there with respect to better scheduling of equipment use. In this connection, we recognize the work being done in the machine installation at the various welfare centers. This program, which we endorsed, has now been virtually completed. We feel that the State should support such mechanization financially, particularly as it reduces the salary cost of welfare administration, toward which the State pays 80 percent. With continued experimentation, as suggested by the survey Report, it should be possible to carry the machine handling of computations and records even farther than now. We reserve approval of the Barrington recommendation that there be only one instead of six machine centers, leaving that question to be worked out by the Department as it gains further experience.

(4) We endorse in principle the many procedural recommendations in the Crafts, Carr & Donaldson Report, and pass them on to the Department for implementation. With few exceptions, all these will tangibly reduce administrative costs, and our engineers advise that they can be made effective without difficulty. Of special importance is the recommendation for the creation of a section in the Bureau of Finance and Statistics to conduct constant, intensive review of forms, methods, and procedures of the bureau.

(5) The Department should undertake a complete revision of the Administrative Register, using a format and index which will make it possible to determine current procedures without time-con-

suming research, and expanding it to include procedures at the central office as well as those in the field. We are of the opinion that this must be undertaken as an internal assignment—it is not one that lends itself to being accomplished by outside consultants, even though the Department has stated that pressure of everyday routine work has prevented the initiation of this project, which it admits is of outstanding importance.

(6) Crafts, Carr & Donaldson were not satisfied with the audit system which they found at the time of their survey. Since that time a new system of "social audit" has been developed in co-operation with the State and is being tried in one district. This system meets in part the criticisms advanced by the survey Report. Other matters not dealt with in the new system should be given further consideration by the Department of Welfare and the Comptroller.

(7) With respect to field auditing, we note that the Crafts, Carr & Donaldson Report urges greater intensification of an audit review of cases accepted for relief, verifying original eligibility, etc.—pointing out that New York City is not receiving reimbursement for a considerable amount of administrative cost. However, we agree with the point of view of Prof. Laurin Hyde, of the New York School of Social Work, who reviewed the Report, that problems such as these are primarily administrative and supervisory ones, not fiscal. While we agree that the Department is losing on these disallowances, we do not agree that the solution of the consultants is complete—the answer lies primarily in strengthened administration, rather than merely in strengthened auditing.



## Special Medical Services

(8) We endorse the general thesis of the APHA Report that New York City should provide more effective combined action by several departments and better interagency communication and understanding, to provide a better system of medical care. We agree with them that much good would result from a New York City Health Conference called by the Mayor, to consist of the commissioners of the departments concerned, and to be responsible for preparing co-ordinated written statements of policy to integrate the services of the Departments of Hospitals, Health, and Welfare. However, we suggest inclusion in this conference of representatives of the medical profession, in addition to governmental officials, in order to implement the Report's own conclusion that more vigorous leadership must be secured from the medical profession in the work of the Department of Welfare.

(9) We conclude that, in the long run, it would be preferable that only two City agencies provide medical care services—namely, the Departments of Hospitals and Health. The present services of the Department of Welfare represent, for the most part, inadequacy and failure on the part of the other departments in the provision of services. We recognize that Federal and State legislation at present offer the City incentives to locate financial responsibility in the Department of Welfare. However, we urge consideration of the APHA suggestion that operating responsibility can, through contractual arrangements, be located in the agencies specifically designed to provide medical care. We note that the APHA Report specifically calls for as-

sumption by the Department of Health of the provision of medical care in children's day-care centers.

(10) The official responsibility for a comprehensive City-wide program for developing nursing home facilities should be placed in the Department of Health, to be carried out in co-operation with the Welfare and Health Council. We note the recommendation in the APHA Report that licensing of nursing homes be transferred to the Department of Health in order to avoid double standards for institutions operated by the City and for those under other supervision, and call attention to our action with respect to the Worden & Risberg Report (Chapter VII, Section 2, paragraph 4), in which we endorse consideration of these licensure matters by the Hospital Council, together with the Departments involved.

(11) Consideration should be given to the recommended "pooled fund" for the primary purpose of improving medical care, as set forth in the APHA Report, and we call for exploration of the subject by the City Department of Welfare and the State Department of Social Welfare in order to ascertain if substantial additional Federal funds could be secured, particularly if all possible nursing homes and hospital care were included in such a pooled fund.

(12) We recommend that the Department try out in two or three centers the APHA suggestion of using the services of a part-time physician for two or three hours daily, with a reduction in the present unsatisfactory physician panel. In general, we endorse the recommendations in the Report for strengthening the medical services, especially the medical social work in the welfare centers.



## Reorganization and Decentralization

(13) We accept the thesis of the PAS Report that the welfare center is the basic operating unit for the major substantive welfare program, and to this end endorse the organizational changes recommended. These are, after all, not revolutionary, and stand up under scrutiny from the point of view of common sense and sound organizational principles. Some of the moves are already under contemplation by the Department, and others, such as the decision to abolish Borough offices, have already been adopted. We find that too many decisions which should be made in the welfare centers or at higher levels within the Bureau of Welfare Administration are made in the Department's central "consultation units"—and that the consultation units have, in effect, become *approval* units. We note that as part of its decentralization program the PAS Report calls for full-time physicians at the welfare centers, but suggest the trial of the APHA recommendation on this score, as given in paragraph 12, above.

## Basic Welfare Administration Policy

(14) The serious problems of administration, accounting, supervision, and personnel recruitment and assignment brought about by the present complex system of intergovernmental relationships and controls have been commented upon by all of our consultants in this study. We note the strong plea to clear up the present administrative confusion and red tape made in the Crafts, Carr & Donaldson Report: (1) to have the State take over all welfare administration and make all payments; or, failing this, (2) to have the State take over all administration, make all disbursements, and bill back to the

City some portion, presumably 20 percent; or, at the least, (3) to have the City carry on all welfare work at the centers as now, under State supervision, with the State doing the actual disbursing of relief payments. However, we find the arguments presented in the IPA Report compelling, and endorse its recommendation for basic administration to be carried on without change in the fundamental framework within which operations are at present conducted, but with a sharp increase in autonomy of the City Department through shifting of State and Federal supervision from administrative details to program objectives. We are fundamentally opposed to any development which will weaken the American system of Federal-State-local government, and concur with IPA that the solution of family welfare problems in an area like New York City must be dealt with in the community, by local government employees operating under flexible local control.

(15) In line with paragraph 14 above, we endorse the short-run recommendations of the IPA Report, calling special attention to the recommendation that the line of authority between State and City welfare agencies should be made direct from Commissioner to Commissioner. Under this scheme, the present State Area Office for New York City would become the New York City Office of the State Commissioner, continuing with its fiscal auditing, advisory case reviews, technical services, etc., but no longer issuing in its own name formal instructions to the City or making decisions on withholdings or policy matters. Moreover, as called for by IPA, the State should give up the use of the local "Plan" as a control device. It



should, instead, prepare a concise, complete, up-to-date manual of regulations.

(16) The City Department of Welfare should draw up immediately, with assistance from the outside if necessary, a detailed plan for implementing the short-run recommendations in the IPA Report, and for other appropriate steps toward better State-local welfare relations.

(17) Regarding State sharing, we note that the Crafts, Carr & Donaldson Report emphasizes strongly the point that recent Federal increases in grants-in-aid to the State have not been ratably passed on as a saving to the City, which still bears 20 percent; and that other welfare services fully borne by the City have the effect of reducing the Home Relief burden to the State; and that it calls for high-level conferences on this subject. After reviewing the history of the way the grants were arrived at, we see no point in reopening the controversy on this subject. However, in connection with State reviews and audits, we strongly concur with the IPA view that the State should shift its emphasis from rectification of past errors to education for future improvement. Too often there is insufficient discrimination between errors of method and errors of result; there is too much intergovernmental bickering, preoccupation with procedure, and excessive paperwork, in an atmosphere of suspicion and antagonism. In this connection, we are pleased to note that a new social audit plan was introduced by State and local action on a pilot basis in March, 1952, which should greatly simplify and speed up procedures.

(18) We strongly endorse the recommendation in the IPA Report for an intergovernmental conference or com-

mission, where the Federal, State, and local governments could join in a comprehensive examination of the long-run intergovernmental problems of welfare administration. Such a commission should give special attention to the complexities and absurdities, so emphatically denounced in the Crafts, Carr & Donaldson Report, arising from the division of public assistance into categories under the present Social Security Law, and to the recommendation in the IPA Report for the eventual broadening and elimination of some of these now artificial "categories" in the basic structure of the Social Security System.

In conclusion, we emphasize particularly that the whole problem of welfare management is not alone a problem in finance, or in administration. The welfare of 200,000 to 300,000 families a year is involved—their fears, their sufferings, their needs, as well as their occasional failings. The humane, yet efficient, handling of this human problem is ever uppermost in our minds, and our conclusions and recommendations rest squarely on these considerations.

(19) In making the above recommendations, the Mayor's Committee gives full recognition to the arduous efforts made by the various Welfare Commissioners and their staffs over the past years to improve Welfare administration in general and City-State relations in particular. This has not been an easy matter, as there has been much reason on the part of the City for differing with the State, as is shown in the technical Reports submitted to us. We believe that any impartial observer reviewing the situation must recognize that any system which produces such friction must be wrong in basic structure. It is



because of this conviction that we have recommended a fresh approach to the entire problem through an inter-gov-

ernmental Federal, State, and local conference or commission, as stated above.

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### STATEMENT

There is, I am sure, nothing to be gained by shifting welfare administration from local management to State management.

For years there has been a bitter area of dispute between the City and the State in the welfare field. As a former Commissioner of Welfare, I have come to grips with this vexing problem. The temptation to throw entire control, supervision and management to Albany must be resisted. In the struggle for survival of local government, which in my opinion is the community heart of the "American way," we must expect and experience certain

transitional and difficult periods in jurisdictional conflicts. The City should and must retain its local responsibility in welfare and must constantly work patiently with the State to develop a climate of mutual understanding and cooperation. Conflict can only thrive on misunderstanding. This is a gulf which can be bridged. The present administration in Albany has already made distinguished contributions in the field of human relations. I have faith that Albany and New York City can jointly achieve the mutual objective of meeting the needs of the helpless.

BENJAMIN FIELDING



## CHAPTER XV

# Hospitals

### EDITORIAL NOTE

The comprehensive study of the Department of Hospitals was entrusted to one firm of consultants, Booz, Allen & Hamilton. The survey, conducted in 1951, covered all phases of administration, organization, and past operation, excluding only the direct medical activities in hospital service. It resulted in a Report of four volumes and a summary volume, totaling 685 pages. These volumes are covered in a single digest in Section 1 of this chapter.

In considering the Report of the consultants, the Mayor's Committee had the benefit of a public hearing on December 13, 1951, at which extensive statements were presented by Dr. Marcus D. Kogel, Commissioner of Hospitals, and others interested in the study. Speaking for the Department, Dr. Kogel took issue with specific statistics and other items in the Report relating to medical care, although he gave general endorsement to the organization and business management findings. The Committee also had the benefit of the discussions of parts of the Report at the New York City Health Conference held at the Academy of Medicine on November 16, 1951, under the auspices of the Committee. (Since the substantive matters discussed at the Conference are included in the digest of the APHA Report on Health, Chapter XVI, the proceedings of the conference are not separately digested, although they were separately published in April, 1952, under the title "The Health of Eight Million.")



In its action, as given in Section 2, the Committee takes notice of the differences of opinion on the part of Dr. Kogel with respect to the validity of statistics on hospital admission, custodial care, and related hospital program matters, but agrees with the consultants as to the basic problem. While taking cognizance of the criticism of the controls imposed on the Department of Hospitals by the Bureau of the Budget, the Committee finds that certain central budgetary controls are necessary in operations of that size, at the same time indicating that other studies of the Committee will encompass budgetary and Civil Service improvements. While agreeing with the consultants that significant returns can be obtained from a drive for collection of delinquent bills, it disagrees as to the extent of moneys that can be thus recovered. It also rejects the consultants' proposal that hospital employees be charged for meals. In part of its action the Committee goes beyond the consultants' study, suggesting that the Department of Welfare assume some of the responsibility for determining the ability of patients to pay.

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## SECTION 1

# ORGANIZATION AND OPERATION

BY

BOOZ, ALLEN & HAMILTON

The general purpose of the survey was to conduct a comprehensive appraisal of the Department of Hospitals and to develop and recommend specific means of improving its organization and administration. Specifically, the following broad areas of study were included in the survey:

(1) To review the objectives, policies, and programs of the Department of Hospitals, insofar as they affect general administration and business management. It was felt that any major cost reductions, as well as refinements and improvements in the management of medical and hospital care, were dependent to a considerable extent on basic policy and program determinations, and that this survey should therefore review the objectives, policies, and programs of the Department in fulfilling its functions in

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Digest from "Management Survey, New York City Department of Hospitals," by Booz, Allen & Hamilton, October 31, 1951.



meeting the over-all health needs of the community.

(2) To study the over-all organization of the Department of Hospitals and to make such recommendations for further improvement as may be indicated.

(3) To recommend specific organizational patterns to facilitate the administration of the general and special hospitals as well as the custodial institutions of the Department.

(4) To prescribe a refinement and simplification of procedures in order that operations in both the central Department and the hospitals and institutions may be carried out at minimum cost consistent with effective operations. The criteria for improvement here would be to determine ways and means for conducting the work

as simply, as cheaply, as quickly, and as effectively as possible, and to bring about a general tightening of controls without, however, creating unnecessarily restrictive patterns for those held responsible for line operations.

It was noted at the beginning that not all opportunities for improvement will necessarily reflect opportunities for reduced costs, although it was to be our purpose to emphasize particularly those phases of the operation that are known to consume the larger portions of the budget.

In general, the survey was to concentrate on problems of business management, organization, and administration, without entering into specific, professional, medical fields.

## ORGANIZATION IN CENTRAL ADMINISTRATION

The establishment of a simple, effective organization pattern for the work in the central offices of the Department of Hospitals was a basic objective of the study. That this work is not a small or insignificant phase of departmental activity is reflected in the fact that the over-all direction, co-ordination, and control of the New York City municipal hospital system is centered in these offices.

A few basic statistics will suffice to indicate the magnitude of the operation. The Department presently operates 26 hospital centers, general hospitals, special hospitals, and custodial institutions, with nearly 30,000 employees and an authorized nursing staff of more than 12,000. The Department employs 2,027 doctors on a full-time basis and utilizes over 7,400 attending physicians from private practice. The municipal hospital system is the fourth largest Department in the City government from the stand-

point of expense, with an operating budget of \$96,500,000 and an expansion program involving 29 new projects estimated to cost a total of \$304,000,000. The annual operating budget of the Department has tripled in the last 10 years from a total of \$32,000,000 in 1942.

### Present Organization

The Department is under the over-all direction of the Commissioner of Hospitals, who is appointed by the Mayor. Although the Commissioner is primarily responsible to the Mayor, he also shares his responsibility and authority in certain important respects with a Board of Hospitals, also appointed by the Mayor. This Board, although not responsible strictly to the Mayor for its actions, is nevertheless given authority of counsel, review, and even revocation in certain respects over the Commissioner. Its functions may be summarized as com-



prising responsibility for: (1) development and maintenance of long-range programs, (2) establishment of standards for medical care, (3) formulation of standards and methods for increased efficiency in departmental operations, (4) approval of departmental capital and operations budgets, (5) review of private and voluntary institutional licenses revoked by the Commissioner, and (6) publication of a hospital code.

Retained for immediate assistance to the Commissioner are 17 organizational units of an advisory or staff nature. The most important of these are the Advisory Council, the Budget Committee, the Office of Administrative Analysis, the Office of Legal and Labor Relations, the Office of Public Relations, and the Office of Institutional Inspection. An Advisory Council on Nursing and a Central Council of Social Service Auxiliaries act in a purely advisory nature.

The principal work of the Department is concentrated in four bureaus of which three perform staff functions and one performs line functions. Staff activities, which are auxiliary and supportive to the main function of the operation of hospitals, are carried on by the Bureau of Administration, the Bureau of Supply, and the Bureau of Engineering and Maintenance. Administrative functions relative to personnel, statistics, collections, accounting, purchasing, storing, and budgeting are divided between the Bureaus of Administration and Supply. Other staff duties pertaining to architecture and the planning of building alterations, the maintenance of buildings and equipment of all kinds, the use of outside firms on a contractual basis, and power plant operation, are performed by the Bureau of Engineering and Maintenance. Direct responsibility for the general care of patients and the operation of the 26 separate institutions

of the Department is lodged in the Bureau of Medical and Hospital Services.

Completing the organization of the Commissioner's Office are a Hospital Planning Board, the Office of the Secretary, and a Collection Review Board. The Research Council, shown on Department organization charts, does not now exist nor has it functioned during recent years.

Except for an unnecessary split of duties of a similar nature between the Bureau of Administration and the Bureau of Supply, the present organizational structure of the Department is basically sound.

### **Recommendations for Reorganization**

Until October, 1950, the present functions of the Bureau of Supply were largely performed by a Division of Supplies in the Bureau of Administration. The present bureau consists simply of the Division of Supplies, renamed the Division of Purchase, and four relatively small services, Dietetics, Pharmacy, Stores, and Laundries, which were transferred to the newly created bureau and raised to division status. The result of this artificial creation has been to split administrative work and responsibility among various bureaus, complicating operations and increasing costs of supervision. The Bureau of Supply does not provide services of sufficient importance to warrant bureau status. It should be abolished as a separate bureau.

Also strongly advocated is a reduction in the number of staff units reporting to the Commissioner while, at the same time, strengthening the remaining units. Altogether, five units of the Commissioner's Office including the Secretary of the Department are thus abolished: the nursing and social service auxiliaries are transferred under



Bureau of Medical and Hospital Services supervision and the Office of Administrative Analysis becomes a Management Division in the proposed Office of the Budget.

The creation of an Office of the Budget is recommended to provide centralization and authority for the entire departmental budget in a single organizational unit, thus facilitating an orderly and uniform budget process. The present Budget Committee, composed of all bureau directors, one general medical superintendent, and the chiefs of the Divisions of Audits and Accounts, Personnel and Purchasing, is ineffective because it functions only at the time of budget formation. Its utility is further weakened by the fact that responsibility for control over institutional, bureau, and staff budget expenditures is dispersed throughout headquarters units on a functional basis.

The Office of Legal and Labor Relations at present is headed by a Deputy Commissioner. The volume and importance of its legal and personnel activities is not considered sufficient to warrant its direction by an individual of Deputy Commissioner status. It is recommended that it be redesignated as the Office of General Counsel, headed by an attorney, to provide legal service to the Department and perform the duties of Department secretary.

These recommendations will shorten the Commissioner's span of supervision and free him from much unnecessary detail work. While no change in the Commissioner's present reporting relationships to the Mayor and to the Board of Hospitals is suggested, the recommendation is made that appointments to the Board of Hospitals come through suggestions or recommendations from appropriate professional, business, and labor groups. This will insure that the

Board is composed of public-spirited citizens, as at present, selected only on the basis of competence and their ability to provide informed counsel and advice on both business and professional matters to the Commissioner. Under present provisions relative to appointment, the caliber of appointments reflects solely the judgment and stature of the Mayor, varying in excellence from time to time, depending on the Mayor's caliber and interest in the area.

It is recommended that principal staff functions be concentrated in the Bureau of Administration and the Bureau of Engineering and Maintenance, and that line functions be centered in the Bureau of Medical and Hospital Services. Considerable internal reorganization of these three bureaus is called for to permit the assembly of units having related functions, to eliminate unnecessary divisions and sections, and to create some entirely new structures to handle the work of the Department properly.

The most extensive reorganization recommended is in the Bureau of Medical and Hospital Services. At present this is composed of nine professional services: Nursing and Nursing Education, Psychiatry, Rehabilitation, Social Service, Physics, Housekeeping, Ambulance, Mortuary, and Medical Statistics and Records. They have general planning functions, and all report to the director of the bureau.

Two other services, Pathology and the Out-Patient Department, are shown in the departmental organization charts but do not exist as active central office services. Operational functions are nominally vested in two general medical superintendents, between whom general supervision over the institutions is divided. Their functions are not clearly defined to differentiate them from those of the medical superintendents of the



institutions. As a result, the institutional superintendents report to the bureau director, while the general medical superintendents exercise a combination of authority over and advisory relationship to them. The bureau director, overburdened with details concerning the bureau's operations and other departmental activities, cannot adequately supervise, direct, and co-ordinate the bureau's important management and planning functions relative to patient care.

In the proposed organization, the professional services are grouped into a Division of Programs. All present supervisory functions have been removed and these services have been assigned the duties of program preparation, consultation on professional work at all levels in their respective specialties, and review and evaluation of work in institutions.

For operational responsibilities, departmental institutions are formed into four divisions of operations, each of which will be supervised by a general superintendent. The supervisory work, in this instance, has been equalized by groupings of institutions related geographically as nearly as possible and by assigning an approximately even number of total beds to each division. Proposed divisions are Welfare Island, Manhattan, Bronx-Queens, and Brooklyn-Richmond, each composed of six to eight institutions for which the general superintendent would have general operational responsibility.

The proposed organization provides administrative assistance to relieve the bureau director of time-consuming office routine details, thus freeing him for greater participation in management operations requisite to proper functioning of the bureau. The work designed for this bureau extends from

program-planning in the Division of Programs to supervision by the Divisions of Operations and to execution by the institutions.

It is recommended that the Bureau of Administration be retained, but that certain of its units be revised and the scope of its activity be enlarged. For example, the bureau would absorb the processing of purchase requisitions now performed in the Bureau of Supply, thus consolidating the purchasing operation within a single organizational unit.

A similar consolidation of functions is recommended with regard to the bureau's Division of Personnel as a means of fixing authority and responsibility for personnel functions. This should eliminate the present central office duplications in the employment process, eliminate unjustifiable variations in job specifications for identical positions, and facilitate the maintenance of accurate personnel records.

Reorganization of the bureau's Division of Collections into a Division of Billing is recommended. Responsibility for financial investigation of patients would be decentralized to the institutions, requiring financial investigation units to be transferred to the superintendents of those institutions in which they are located. This would provide better control and supervision over financial investigation and promote better co-operation in this area of work. Central office personnel of the Financial Investigation Section would be retained to continue certain of the Section's essential functions. The Division of Billing would establish four sections to handle designated billing functions and would retain the present Delinquent Account Section. A clear separation of billing categories by the proposed sections should prevent duplication in the billing process.



Organizational recommendations will not alter the bureau's organization extensively. A Scheduling Section is recommended to develop and maintain orderly scheduling co-ordination and processing of the workload, and the Divisions of Mechanical Engineering, Electrical Engineering, and Architecture are provided with proposed Plans Sections to facilitate the preparation of designs and specifications. A Division of Institutional Engineering would be established to consolidate the bureau's plant operation and maintenance functions and the Inspection Section of the Division of Contracts and Inspection would be established as a Division of Inspection. Two divisions, Power Plant Operations and Automobile and Mobile Equipment, would be transferred in section status under the Divisions of Institutional Engineering and Mechanical Engineering respectively.

Better leadership, co-ordination and direction of bureau activities will be obtained through adoption of a recommendation that the bureau be placed under the direction of a licensed professional engineer qualified to recognize the engineering needs of the Department and to organize the solutions to the technical problems involved. The bureau has been handicapped for many years by the inability of the majority of directors to perform the technical functions of the position due to a lack of engineering qualifications.

It is recommended that the functions of the Division of Contracts and Inspec-

tion be distributed among other divisions of the bureau and that the division be abolished.

A final recommendation is that the Ambulance Service be transferred to the Police Department to centralize the operation of the City emergency ambulance service.\* The Department of Hospitals does not have an adequate distribution of facilities to provide well-located ambulance stations. In addition, it lacks communications systems and satisfactory garaging and maintenance facilities. Recent studies indicate that ambulance service has become primarily a transportation rather than a medical activity.

On the other hand, the Police Department possesses telephone and radio communications systems; it has approximately 85 well-distributed stations to serve as ambulance stations; and it operates an extensive automotive repair service. In addition, it has long been associated in the operation of the emergency ambulance service both in a dispatching and reporting capacity. Full operation of the service by the Police Department would relieve the major causes of its present deficiencies.

Summarized, the organizational recommendations in central administration require the abolition of the Bureau of Supply and retention and reorganization of the other three bureaus. Seven new divisions in the bureaus are created and seven of those existing are abolished or reorganized for more effective work.

## OPERATIONS IN CENTRAL ADMINISTRATION

In general, operations in central administration are loosely controlled and inadequate for the task of guiding, servicing, and controlling a Department

represented by a daily load of approximately 20,000 patients, a physical plant

\*ED. NOTE: Not concurred in by consultant on police survey. See Chapter XIX, p. 837.



comprising 200-300 buildings in 26 insituations, a staff of 30,000 employees, and an annual operating budget of more than \$96,000,000 (fiscal year 1952).

### **"Open-Door" Admission Policy**

One reason for this inadequacy in providing a truly effective central administration for the Department is that the various central office bureaus and divisions tend to isolate themselves from one another in their planning, programing, and conduct of affairs, and hence lose the advantage of a highly co-ordinated service directed toward the achievement of common objectives. Occasionally these bureaus and divisions are brought together on a common problem, such as the home care program, or for planning for new hospitals, but generally these organizational units carry on their work independently of one another. Many functions prescribed in General Orders for the various bureaus and divisions are frequently not carried out or are only partially carried out, thus bringing about omissions, inadequacies, overlappings, and duplications. However, the principal factor influencing Department operations is the present "open door" admission policy.

While Section 587-a of the City Charter provides that "hospitals or other institutions under the jurisdiction of the Department shall be primarily for the care and treatment of the indigent sick of the City," the Department has chosen to give the meaning of the word "primarily" a most liberal interpretation. In actual practice it admits all individuals who demand hospitalization, without regard to indigency. This practice has led to many difficulties in Department operations by overcrowding

many of its hospitals. For example, the 1950 average bed occupancy rate for all its general hospitals was 100.3 percent. Some institutions operated at extremely critical rates as high as 130.9 percent.

The overcrowding imposes extraordinary demands on personnel and facilities which are difficult to meet. This results in lowered standards of service, delays in diagnosis and treatment by the adjunct diagnostic and therapeutic services, and an extended average length of hospital stay. In an effort to meet the demands, the Department has increased its personnel and expanded its facilities. Furthermore, a \$304,000,000 building program is proposed to provide additional institutions.

According to Division of Collections reports, a total of 40,125 patients, or 21.2 percent of 189,388 cases investigated during 1950, were full-pay cases, while 35,660 or 18.8 percent of those investigated were part-pay cases. Total admissions during 1950 numbered 283,024 of which an estimated 36,625 newborn, criminal, transfers, and others were not subject to investigation. However, there remained an estimated 57,011 admissions which were not interviewed and not investigated relative to ability to pay all or part of their hospital costs. If similar results could be obtained from investigation of the uninterviewed cases, it is possible that an additional 12,086 full-pay cases would have been found. It may be assumed, therefore, that the total number of medically non-indigent patients admitted to Department institutions during 1950 may have approximated 52,211—(40,125 on record plus 12,086 from the group not investigated).

Of this number of medically non-indigent admissions, 10 percent are estimated to have been emergency admissions in the truest sense of the word, that is cases which could not have been trans-



ferred to non-departmental hospitals. On the basis of average of 12.5 days' stay, a national average, the remaining 90 percent or 46,900 medically non-indigent patients accounted for about 587,375 patient-days. Theoretically, since this represents only 18 percent of the total general ward capacity of voluntary hospitals in the metropolitan area, these institutions would be able to handle the non-indigent patient load of the Department on existing vacant ward and semi-private beds—assuming, of course, that the proper distribution of these patients to the voluntary hospitals were possible.

There is, therefore, no imperative need for the Department to assume responsibility for the care and treatment of patients who are not medically indigent and the "open door" admission policy need not be perpetuated.

It is of utmost importance that the Department adhere to the specific direction of the City Charter to exert its principal efforts to the care of the indigent sick. Exceptions must, of course, be made for emergency cases, psychiatric, and tuberculous cases, and for others which may be prescribed by law. Section 587a of the City Charter should be amended to require the Department to provide hospitalization solely for the medically indigent, with the exception of emergency, Federal, and State cases.

Adherence to this less liberal admission policy during 1950 alone would have resulted in estimated savings of over \$1,700,000 in operating expenses. This figure is obtained by multiplying the estimated 587,375 non-indigent patient-days by \$11.90, the Department's reported cost per patient day, to reveal over-all costs of \$6,989,762. From this figure is deducted the 1950 collections from full-pay patients, which amounted

to \$3,546,127. This leaves estimated gross savings of \$3,443,635. The gross savings of \$3,443,635 has then been arbitrarily reduced by 50 percent because it is recognized that fixed charges cannot be reduced in proportion to the reduction in patient load. The estimate of annual savings of \$1,721,812 in expense is therefore felt to be conservative.

Of equal importance would be a reduction in over-all occupancy, thus permitting personnel and facilities to meet more adequately the demand for service. This would reduce markedly the need for new construction as represented in the capital budget and would alleviate some of the need for physical expansion of laboratories and X-ray services.

### **Custodial and Infirmary Patients**

Another recommendation of major importance relates to custodial and infirmary patients. While some concentration of these patients who require only minimal medical and nursing care has been effected at City Home and Farm Colony, a large number of them still occupy general hospital beds throughout departmental institutions.

Although no recent study has been made of the number of such cases now in general hospitals, the Bureau of Medical and Hospital Services estimates a total of approximately 1,700. On the basis of a stay of 365 days per year, they account for 620,500 days of patient care. It is anticipated that the number of custodial type patients will increase because of improved medical practices and the rise in general health and longevity of the population.

The hospitalization of custodial patients in general hospitals prevents the use of their beds for acute cases and the cost of their care is estimated to be at least three times what it would be in



the "home" type of institution specifically operated for custodial patient care. An estimated departmental saving of over \$5,000,000 would result by removing custodial patients from general hospitals and placing them in institutions devoted exclusively to their care. It is recommended, therefore, that such a step be taken not only so that these savings will be effected in operating expense but also to lessen the demand for additional general hospital facilities by releasing general hospital beds for use by patients with acute illnesses.

The program for the capital budget should then be related to the new policy of restricting admissions to the medically indigent and to the concentration of custodial and infirmary type patients. For example, the removal of the reported 1,700 custodial type patients to other accommodations would release an equal number of general hospital beds, thus alleviating the need for construction of equivalent facilities. On the basis of present estimated general hospital construction costs of \$20,000 per bed, this would result in a saving of \$34,000,000 in capital budget requirements. Assuming, however, that accommodations would have to be constructed for the 1,700 custodial cases at an estimated cost of \$9,000 per bed, a total of \$15,300,000, the net saving would be \$18,700,000.

It is not considered probable that general hospital beds thus freed will be occupied again by general hospital patients, nor that the Department's patient load will be increased as general hospital beds are made available. This is based on the assumption that there is no reservoir of actually ill individuals requiring hospitalization, and that only 232 tubercular patients who applied for admission to departmental institutions

were turned away as of August 31, 1951.

The present proposed capital budget does not make provision for construction of "home" type institutional facilities. It is recommended that attention be given to this phase of the work.

Revaluation of the building program in the light of restricting admissions to the medically indigent will make possible an additional saving. This is based on the premise that medically non-indigent patients will not be admitted. Since this group constitutes approximately 17 percent of all admissions including newborn, it is estimated that approximately 1,610 beds would be freed by their exclusion. At a cost of \$20,000 per bed, this would result in a reduction in the building program of \$32,000,000. Adoption of these recommendations would also result in a lowering of debt service and operating costs.

## Personnel

Employment is nominally the function of the Division of Personnel, but almost all bureau, division and section heads conduct employment activities of their own, almost without reference to the Division of Personnel, except to get the prospective employee actually on the payroll. This results in a lack of departmental uniformity in procedures for recruitment, personnel interviews, and appointment; ineffective recruitment programs; inconsistent specifications and prerequisites for identical positions; and loss of central office control of departmental personnel administration.

It is recommended, therefore, that direction of the administration of departmental personnel employment procedures be a responsibility of the Division of Personnel and that central-



ized training programs be established to orient new employees and provide on-the-job training in specialized subjects.

### **Purchases and Requisitions**

Purchasing and requisitioning are not wholly performed by the Division of Purchase but are scattered through such other units as the Division of Pharmacy, the Division of Dietetics, and the Bureau of Engineering and Maintenance. Delays occur not only in the flow of requisitions between the Division of Purchase and the other central office units concerned, but also in the decentralized process of checking and approving purchase requests. The volume and value of purchases is evidenced in estimated expenditures of \$24,900,000 for fiscal 1951. Most of the required processing could be done within the Division of Purchase. To eliminate the present unnecessary and time-consuming flow of work mentioned above, it is recommended that requisition processing be concentrated in that division.

### **Budgeting**

Still another example of poorly conceived and executed procedures is that of budgeting. This function is the responsibility of no individual or budgetary unit but receives loose supervision by the Budget Committee which, under two chairmen, reviews institutional, bureau, and division budgets for presentation to the Commissioner. The committee, with leadership split and composed of bureau heads, does not and cannot make an objective review of requirements, since its members must review each other's budgets. Of even greater significance is the fact that it cannot exercise a continuing review and control over expenditures as operations progress. The effect of inadequate supervision over the initial preparation of

budget requests, for instance, is observed in the size of the burden involved in subsequent review and revision of these requests. During the period of budget review and consolidation, the other work of central office reviewing units is practically at a standstill.

The recommendation, therefore, is made that a methodical and responsible budget process be developed which will provide a process for budget formation from the bottom up and establish a continuing, year-long control over expenditures. This would be under the direction of the proposed Office of the Budget. This will materially assist top management of the Department to control activities as well as the spending of money and should have a noticeable impact on maintaining uniformity in the budget process throughout all units.

### **Payroll**

Payroll activities, while wisely centralized, have been placed where they do not form an adjunct to accounting operations. They require considerable mechanization and a new approach to the determination of the payroll period in order to become efficient and to cease causing hundreds of employees each payday to go payless until errors can be corrected and changes made. The present system is unsuccessful principally because of duplications and wasteful methods, the lack of full co-operation from institutions, and the low caliber of individual effort in the central Payroll Section.

A major recommendation relative to the payroll process is to pay employees two weeks in arrears. This would eliminate the present source of errors which necessitate an unduly high percentage of refunds and would alleviate excessive checking of personnel records. An estimated manpower savings of six employ-



ees whose salaries total about \$12,000 per year would result.

### **Maintenance**

Huge backlogs of work have accumulated in the central administration and require comment. It is estimated, for example, that approximately 2,000 requisitions for labor and materials valued at \$2,000,000 remain untouched in the various divisions of the Bureau of Engineering and Maintenance. Many explanations are offered by bureau executives, such as low pay which does not permit hiring in competition with private industry, inadequate maintenance budgets, and a reluctance on the part of private contractors to perform work for the Department because of slowness in paying bills. Nevertheless, the bureau has not made good procedural efforts to clear up the backlog or such parts of it as may be possible by such devices as a preliminary screening of applications, scheduling of all present operations, and a larger transfer of work to outside contractors. Nor has the Department tried to speed up inspection of and payment for contractual jobs by obtaining special permission and funds therefor from the Bureau of the Budget.

The combination of failure on the part of the bureau to cope with normal maintenance problems and failure of institutions to accomplish preventive maintenance has resulted in unnecessarily deteriorated plants and equipment. Accordingly, the bureau is urged to expand its services to promote plant and equipment maintenance activities at the institutional level, to schedule its workload so as to achieve accelerated production, and to adopt performance standards. Control would be exercised through the recommended adoption of an inspection system. These recom-

mendations should do much to increase bureau work productivity, to improve labor proficiency, and to raise work quality, thus enabling the bureau to meet the demand for its maintenance and engineering services.

### **Billing and Collections**

Serious backlogs of work are to be found in billing and collection activities. These comprise some 58,600 unpaid and uninvestigated hospital bills with an estimated value of \$9,600,000. Over 48,000 of the unpaid bills, estimated at \$8,200,000, are in the files of the Compensation and Liability Section of the Division of Collections. Many of them date back as far as 10 years ago. The remaining 10,600 unpaid bills, totaling about \$1,400,000, have accumulated in the files of the Delinquent Accounts Section of the division.

On the basis of previous experience in the Delinquent Accounts Section whereby 25 percent of delinquent bills investigated were found to be payable, the present total of 10,600 delinquent, general bills should yield an estimated \$350,000 in revenue. Similar processing of the unpaid bills, incident to compensation and liability cases, should produce a large percentage return. Collection opportunities for compensation and liability cases are better than those for general bills because of the fact that they represent claims against State agencies and insurance carriers. Because of this it is felt that 50 percent of the backlog can be recovered. On this basis, approximately \$4,000,000\* should be obtained.

To accomplish this it is recommended that all accumulated, unpaid hospital bills be thoroughly investigated and

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\*ED. NOTE: This represents a change in the consultants' estimate of \$8,200,000 quoted in the published Report.



processed by the Delinquent Accounts Section. The Section should be provided at least six additional temporary employees at an estimated annual cost of \$17,000 in order to perform a complete and effective job. In addition, institutions should be required to provide the proposed Division of Billing with accurate and up-to-date data on patients and all billing activities should be placed on a current basis.

### Other Findings

Other deficiencies found revolve around such subjects as: the failure to establish objectives and policies to guide executives generally, an almost complete lack of training of employees now on the payroll, inadequate manuals and procedural orders of all kinds, and a lack of what may be called executive controls through crisp, factual reports on all major activities. Statistical procedures have not been developed so that data on most subjects, including those necessary to this Report, are gathered with great effort. In many instances valuable and necessary data and statistics do not exist.

Recommendations are made which, when adopted, should correct many of the above noted deficiencies in central office operations. For example, it is recommended that properly formulated objectives and policies be determined and published for the guidance of all executives and employees. This should achieve a greater purposefulness within the organization and help to eliminate duplication of functions and effort.

With regard to program planning it

is suggested that this be a major function of the Division of Programs of the Bureau of Medical and Hospital Services. A corollary recommendation is that the planning services be established solely as staff units to co-ordinate planning activities and tie them together on a continuing basis, holding bureau directors responsible for the preparation and execution of programs in their respective areas of work.

Another recommendation in this general area stresses the utilization of manuals on organization and operations, personnel policies and procedures, as guides in personnel training and for general reference. Still another provides that an orderly control over organization and operation be exercised through the institution of an adequate reporting system.

Tangible benefits in reduction of patient load and the proper housing of those on hand will result in annual operating savings of \$6,700,000 (\$5,000,000 by the concentration of custodial-type patients, and \$1,700,000 by refusing admittance to non-indigent patients). In addition, there will be one-time savings of \$4,350,000 in collection of unpaid hospital bills and a net reduction of \$50,900,000 in the new building construction program.

Concrete or dollar results of many recommendations cannot, of course, be calculated since these involve a number of intangibles. But, in over-all effect, these results will be none the less real and will bring in their train a much greater efficiency and a much improved service.

## ORGANIZATION IN INSTITUTIONS

It is a commonplace fact that organizational patterns in field installations, in this case hospitals and custodial

homes, are frequently a reflection of organizational patterns and methods of operation in the so-called home office or



central administrative office. Sometimes this reflection is a compliment to the headquarters staff, and then again, sometimes it may be a mirror of bad practice.

In the case of the Department of Hospitals, there is a long history of bad practice and a definite trend toward real improvement in recent administrations.

The extreme centralization of authority in headquarters which formally existed in this Department had caused superintendents to organize their institutions along loose, non-functional lines. Strong executives and self-sufficient units in the institutions were not needed because these were provided by central office organizations.

Within the past two years a great deal of authority has been relinquished to institutions but has not, as yet, been generally translated into real or effective changes in the hospitals. But the trend is all to the good and should be encouraged. Also, there is still too little contact between central office and institutional executives, a condition which suggests that remnants of the old over-centralization still exists, especially in regard to such matters as budgeting, purchasing, plans for changes and additions to buildings, and program development.

#### **Four Types of Institutions**

The Department operates four types of institutions: hospital centers, general hospitals, special hospitals, and custodial homes. The three centers provide both general and special hospital services, and in addition maintain certain educational facilities. Their beds total 7,744. The 11 general hospitals are intended primarily for care of general medical and surgical patients but are

forced by present overcrowded conditions to accept tuberculous, chronic, and custodial patients. Three of them have affiliated schools of nursing. These institutions maintain a total of 5,121 beds. The 10 special hospitals having a total of 7,383 beds care for patients with communicable diseases, tuberculosis, and cancer. The two custodial homes, consisting of 2,903 beds, administer to aged, infirm, or chronic patients who require only a minimum of medical attention.

With few exceptions, the institutions are organized into numerous small sections, such as office services, stores, laundry, housekeeping, nursing service, dietary service, engineering, pathology, mortuary, medical records, social service, and the out-patient department. These units, together with many more not mentioned, generally report directly to the medical superintendent. Except in hospital centers, no attempt has been made to group these functions into logical divisions or services which could be more easily and readily administered. In almost all of the institutions the heads of major organizational units report directly to the superintendents, resulting in overextended spans of supervisory control.

In most cases, deputy medical superintendents are assigned to a hodgepodge of miscellaneous functions having little or no relation to one another. The supervision is loose because these deputies are not made line supervisors nor are they often given specific authority.

There is no standard pattern of organization in the departmental institutions, but the types of organization now existing in hospitals do not provide enough supervision at the top. Neither are units which have like functions assembled into larger organization units



so as to break up the "across-the-board" supervisory duties of the superintendent.

The plan of organization proposed follows that recommended for headquarters and establishes, for hospital centers and general and special hospitals, three major divisions of administration, professional care, and engineering and maintenance.

Functions of personnel administration, storekeeping, housekeeping, patients' financial investigation, laundry, and miscellaneous office services are similar in the respect that they service the institution as a whole, and are neither professional in nature nor directly related to engineering and maintenance. Furthermore, more effective co-ordination and control of these activities is necessary to provide more efficient service. Accordingly, it is recommended that all such administrative operations be combined into a Division of Administration under the direction of a chief.

In each of the hospitals and hospital centers several organizational units such as the nursing, X-ray, pathology, dietary, home care, and medical records services are directly concerned with patient care activities of a professional nature. There are few instances when at least some of these services are not required in admissions, diagnosis, treatment, or disposition of patients. The load involved and consequent administrative problems of co-ordinating these several services is reflected in the fact that during 1950 a total of 685,467 patients were hospital admissions or registered as out-patients. Few attempts have been made to combine these services under the co-ordinating direction of any one individual other than the administratively overburdened medical superintendents. The lack of active over-all supervision and control results in failure of co-operative and co-ordinated action

to effect the most expeditious handling of patients.

It is recommended, therefore, that all medical and related activities of hospitals be centralized in a Division of Professional Care under the supervision of a deputy superintendent. Furthermore, the deputy superintendents should be provided with assistant superintendents to be delegated administrative authority and responsibility over tuberculosis, psychiatric, and similar special services which require particular supervisory attention.

### **Nursing**

The majority of departmental nursing services are actively engaged in three principal operational areas: provision of bedside nursing and patient care, education of student nurses, and administration of nursing activities. Over 12,000 nursing positions are required in performing functions related to activities in these three areas. Over 3,500 of these positions are filled by graduate nurses, the remaining positions being filled by practical nurses, and hospital attendants.

It is recommended that the essential characteristics of the present organization of the nursing service be preserved by dividing it into three organizational units responsible for student education, ward nursing, and administration. The Superintendent of Nurses should continue as head of the service, but she should be redesignated as Director of the Nursing Service. Through their reorganization the responsibilities and functions in each area of nursing service operations are clearly defined and the organizational units required in their performance are established.

### **Dietary Service**

Likewise, it is recommended that the two principal operating areas of



Dietary Service activities be recognized by creating within its structure a Patient Dietary Service and an Employee Dietary Service. The Director of the Dietary Service should be responsible for co-ordinating their operations and effecting control of their activities. Close administrative supervision of dietary services is essential inasmuch as the cost of their activities represents about 10 percent of the entire departmental operations budget. For example, raw food costs alone in 1950 totaled \$9,120,877.

### **Ancillary Service**

Certain of the adjunct diagnostic and therapeutic services which will fall within the jurisdiction of the Division of Professional Care present extremely important administrative problems. Of primary concern has been the inability of the X-ray and laboratory facilities to meet the demands of hospital staffs relative to diagnostic work. The expansion of these services and the development of the so-called "bottleneck" programs in X-ray and laboratory work imposes an increasingly greater burden on institutional executives with the result that some of the adjunct services receive inadequate supervision and coordination.

Accordingly, it is recommended that the adjunct diagnostic and therapeutic services be consolidated, administratively, into an Ancillary Service, headed by a director. It should be composed of the Pathology Service, Physical Medicine Service, X-Ray and Radiology Service, and Pharmacy Service.

### **Medico-Administrative Service**

It is further recommended that a Medico-Administrative Service, under a director, be established in the proposed Division of Professional Care. This unit

would include the Admitting Service, Home Care Service, Out-Patient Service, Social Service, and Employee Health Service, with each headed by a chief. Combining their activities in one organizational unit will facilitate their coordination and result in more effective service to patients.

### **Maintenance**

Although most of the institutions completed during the last 15 years have been planned to keep maintenance requirements at a minimum, the many old buildings, equipment, and power plants still in operation require an excessive amount of upkeep. Very little preventive maintenance work is accomplished because of the heavy demand for emergency repairs and urgently required maintenance work. The generally deteriorated condition of departmental plants and equipment indicates a definite need for the provision of an organizational unit in all hospitals to be responsible for repair, maintenance, and preventive maintenance requirements.

Accordingly, it is recommended that a Division of Engineering and Maintenance be created to include a Maintenance Section, Power Plant Section, and Building Service Section. A qualified division chief and subordinate supervisory personnel needed to schedule, direct, and inspect maintenance and plant operation work should be provided.

### **Administration**

Over this organization of three major divisions is placed a superintendent who is responsible for all operations and the general execution of programs. His detail office work would be taken over by an administrative assistant, and, in hospital centers, he would have a number of assistant superintendents to



supervise special units such as tuberculosis and psychiatric divisions. This would relieve him of time-consuming detail, permitting him to develop objective co-ordination of major activities and key personnel.

The Medical Board of each center and hospital is retained in its present capacity as the unit responsible for all professional activities relating to patient care, including the provision and control of professional service. It will continue to act as an advisory body to the superintendent in matters of administration which relate to professional affairs. However, it is recommended that there be only one board for each hospital or hospital center to prevent duplication and confusion in professional supervision.

A Lay Advisory Board and other advisory and auxiliary groups assist the superintendent with community relations and the interpretation of departmental objectives. Although no lay boards have yet been established, the Department has wisely decided to form them at all institutions. The purposes of the boards will be to contribute the benefit of the experience of members in business to professional activities, to analyze community needs, and to obtain community support for hospital activities. This action is commendable and should be expedited.

In custodial homes, the same type of organization is recommended except that administration and engineering and maintenance functions are combined and work in professional care is severely reduced because of the lack of need for these services. Thus it is recommended that a Division of Administration, directed by a chief, should be responsible for functions incident to personnel administration, storekeeping, housekeep-

ing, engineering and maintenance, and general office services, while a Division of Professional Care, under a deputy superintendent, should be responsible for operations pertaining to infirmary care of patients, nursing service, social service, dietetics, occupational therapy, and patients' recreation.

In organizing the two custodial institutions on this basis three additional employees at an estimated total annual cost of \$17,000 will be required. This would involve an administrative assistant at \$4,000, at City Home, and two chiefs of the proposed Divisions of Administration at \$6,500 each.

Several recommendations can be made which are generally applicable to all institutions. These include the elimination of the requirement of a medical degree for the position of superintendent and other key executives so as to allow appointment of the most highly qualified hospital administrators whether lay or medical; expansion of the number of affiliations with medical colleges to include all departmental institutions; and centralized budget responsibility, delegated to the chief of the proposed Division of Administration. Of especial importance is the establishment of admitting and diagnostic clinics in out-patient services to render better service and to reduce the number of unnecessary and ineligible admissions.

### **Out-Patient Admissions**

Although the number of patients seeking out-patient care has increased almost 86 percent since 1945, little is done organizationally to screen out-patient admissions from a medical standpoint. The increase in case load has imposed a volume of clinical work beyond the capacities of present out-patient department



staffs except in certain specialized clinics. Delays in establishing diagnosis and instituting treatment result. In many reported instances, diagnosis is never made, sometimes reportedly due to the fact that 20 percent to 30 percent of the people seen are not in need of out-patient clinical care. In addition, delays and waste of effort occur because of incorrect referrals to special clinics upon admissions of new patients.

To limit out-patient admissions to medically eligible patients and to assist in their assignment to correct services, it is recommended that admitting clinics be established in all general hospital out-patient service. The total estimated annual cost of professional coverage for these clinics would be approximately \$230,375.

By limiting out-patient admissions to medically eligible patients, an estimated reduction of over 20 percent in patient load will be effected to allow clinic staffs to devote more time to eligible patients and permit improvement in the quality of care.

Approximately 43 percent of the Department's out-patient load is located in facilities unable to provide comprehensive medical care, partly because they are not organized to provide the diagnostic services needed to determine definite diagnosis. As a result, many patients are referred to in-patient services for study and treatment. This is responsible in part for the present abnormally high census in many Department hospitals.

As a means of decreasing the number of referrals from out-patient services to hospital admission, it is recommended that diagnostic clinics be provided in all general hospital clinics to accomplish the maximum amount of diagnostic

work possible at out-patient level. Estimated to cost \$410,000 annually for professional coverage, these clinics would help relieve the problem of overcrowding of in-patient services and would decrease the average length of stay of referred out-patients through accomplishing time-consuming diagnostic examinations at out-patient level.

The reorganization recommended will free superintendents for more responsible work with their top subordinates, the community, and the Department as well. Hospitals will be organized along functional lines and areas of work will be divided so as to provide more intensive supervision and better service to units.

### **Organizational Costs**

Some additional costs are involved in setting up the organizational structure recommended. These result from the increase in number of top executives and supervisors for various divisions and services. It is estimated that, as a result of all recommendations made here, 64 additional top supervisory persons will be required at an estimated annual cost of about \$317,500.

These costs, however, will be more than offset by reductions in costs or by increased revenues that will result from recommendations in other phases of work included in this survey. It is strongly felt that the organizational improvements, together with the advantages to be gained from intensified supervision, will result in better service to patients, reduction in work frictions, and a general improvement and intensification of effort. These organizational changes are the necessary structural basis on which the operations envisioned below are predicated.



## OPERATIONS IN INSTITUTIONS

Even with the most sympathetic attitude toward the local management of the individual departmental institutions, it cannot be said that, according to modern standards of hospital management, they are well run. This condition exists to some extent because of inadequacies in the local management itself; it exists to a larger extent, however, because of lack of proper direction from central administration, and also because of highly cumbersome and questionable management practices imposed by the City administration generally.

It must be realized that the Department of Hospitals is by no means an autonomous Department with a Commissioner responsible only to the Mayor. The Commissioner of Hospitals and his staff are required to observe, comply with, or conform to numerous rules, regulations and practices that limit and confine, if not actually prevent, the independent and free use of personal, executive judgment.

It is, therefore, not a question for the executive to ask what he, in his best judgment, should do in a particular situation requiring administrative decision; rather, he must ask himself what he can do, within the limits of present practices, to accomplish as much as he can without violation or rebuff. The problem is extremely real with many of the hospital directors and their assistants, and their ingenuity in getting at least something done in the face of present restrictions and practices is commendable, although sometimes a little weird from a management point of view.

As compared to the problems and practices of management in the average voluntary hospital in this country, the obstacles to good management in any of the municipal hospitals in the City of

New York are severe. Peculiarly enough, as restrictive as many of the practices turn out to be, they nevertheless lack definiteness and are only occasionally formalized in writing. As a result, they do not provide real and effective controls over either work or expenditures, and they vary considerably from institution to institution.

### Screening Before Admission

Basic to many problems in the Department of Hospitals is the liberal admission practice followed in all its hospitals. This has already been discussed as it relates to medically non-indigent patients. Another factor, however, is the general reluctance of admitting physicians to turn away any persons requesting admission, regardless of whether they are medically indigent or whether they need hospitalization at all, lest such rejection lead to disturbing publicity or political inquiry. This laissez-faire attitude in the admitting practice contributes to the overcrowding of the New York municipal hospitals as evidenced by the total occupancy rate of 100.3 percent.

The surveyors found many facts and figures that point up corollary problems resulting from this overcrowded condition of New York's municipal hospitals. Equipment is overloaded and inadequate; professional people, such as doctors and nurses, are dangerously under authorized quota; time lags in examinations are far in excess of normal standards; and costs are excessive in the light of the overcrowded conditions.

There is a need for careful determination of actual clinical requirements relative to each hospital admission and for the exercising of a greater degree of selectivity to insure that patients



admitted to general hospitals are medically eligible. It is recommended, therefore, that residents and interns be assigned to the Admitting Service of each general hospital to assist in this determination. Assuming that a conservative reduction of merely 5 percent in admissions will be accomplished through proper screening, the in-patient load will be diminished by over 10,000 admissions annually. On the basis of an average length of stay of seventeen days, a drop of over 170,000 patient-days could be anticipated and would be reflected in a theoretical saving of \$11.90 per day or approximately \$2,000,000. In addition, elimination of overcrowding caused by non-medical patients would permit hospital staffs more time for medically eligible patients; ancillary services would be relieved of some work load, and the general quality of hospital service would improve as a result.

### **Development of Career Executives**

Another problem requiring attention is the almost complete absence of any program to develop leadership within the Department, yet it is commonplace knowledge that leadership is basic to good management. The institutional superintendents occupy responsible positions calling for incumbents of good training and breadth of vision. Some of them manage staffs which total as high as 5,000 employees and supervise annual expenditures of amounts up to \$12,000,000. With few exceptions, however, they are buried in a mass of petty detail, and their spans of supervision are overextended because of a reluctance to delegate real authority and responsibility to their deputies.

In the Department of Hospitals, deputy medical superintendents and others are for the most part left to their own resources to learn as best they can. In

some cases deputies are given responsibilities for certain segments of work and have an opportunity to become proficient within these special areas; in other cases, these executives perform only minor inspection functions with little opportunity to prepare for advancement. The recommended use of the second level executive contemplates their development through delegation of authority, regular staff conferences, planned job rotation, and promotion from within. The development of career executives in administration of departmental institutions is particularly important in view of the proposed construction program and the fact that many of the present superintendents and deputies, scheduled for retirement at roughly the same time, will require replacements.

### **Realistic Budgeting**

Budgeting and control methods in practice in all the hospitals are unrealistic, deceptive, cumbersome, and almost useless as effective management tools in controlling either work or expenditures. This has been brought about partly by a lack of attention to the subject by headquarters executives and, to an even greater degree, by policies followed by the Bureau of the Budget. It is found, for example, that some key codes in the budget are always and apparently deliberately underbudgeted so as to show a savings, although the actual expenditures for these items almost always exceed the original estimates by considerable sums. This is particularly true relative to the allotment for Code 68-107 which covers medical, surgical, and laboratory supplies. The extra money thus used comes from transfers from personnel services, where the number of persons originally authorized to be employed is cut to make up for budget



deficiencies forced on the Department. As a result of this practice, operations suffer because of a lack of employees. Budget-making must be placed on a basis in which the Department can count with certainty on definite sums in all budget categories. It is recommended, therefore, that the Bureau of the Budget be required to provide the Department of Hospitals with realistic budgets for medical, surgical and laboratory supplies, and personnel services.

In addition, it is recommended that detailed expenditure control accounts of all budgetary codes for supplies, materials, and equipment of institutions be maintained at the central office proposed, Office of the Budget, and that the institutions be relieved of this responsibility. At present the time of an estimated nineteen institutional stores employees, at a salary cost of about \$38,000, is wasted in duplicating central office control functions. The recommended centralization would permit better utilization of their time.

### **Assignments for Personnel**

Another weird practice has to do with an ingenious but cumbersome juggling device which allows for personnel on one hospital payroll to be actively working in another hospital, with innumerable variations and complications that circumvent certain top policies in order to meet the specific and real requirements of the hospitals. The practice results in a cumbersome payroll process. Institutions which have personnel assigned to them, but on payrolls of other institutions, are required to submit timekeeping reports on the employees concerned to those other institutions. This interinstitutional correspondence for purposes of maintaining records on employee absences and other timekeeping matters is not only confusing but

extremely time-consuming. The situation indicates that present institutional budgets and payrolls reflect neither true personnel strength nor realistic personnel cost.

Under these circumstances it is recommended that all personnel positions be placed in the budgets and on the payrolls of those institutions in which the employees are actually working.

It is noted that the present decentralized employment system, whereby relative autonomy is permitted the heads of organizational units with respect to the employment of personnel, has two bad effects. First, unit heads must divert their attention from operational matters to perform employment functions. Second, employment activities of recruitment, candidate investigation, and indoctrination training are ineffective because unit heads lack the time to concentrate on the details and problems involved. This weak institutional employment process is reflected in an unusually high turnover of personnel in some institutions. At Fordham Hospital in 1950, 557 positions out of a total 838 were vacated, a personnel turnover of 66 percent. In the same year Willard Parker Hospital experienced a 58 percent turnover and Seton Hospital, 53 percent.

### **Absenteeism**

Because of present inadequacies in the institutional employment process, it is recommended that the Personnel Section of the proposed Division of Administration be assigned this responsibility.

Problems of management are, of course, magnified by present personnel practices many times beyond their normal proportions and are actually multiplied by corollary difficulties that become increasingly serious. For example, the presently abnormal rate of



absenteeism is causing the Department to lose the equivalent of the work of hundreds of employees annually. This is especially noticeable and important in the nursing service, where the shortage of personnel is staggering and the rate of absenteeism is unfortunately the highest. This service employs 45 percent of all personnel and has 60 percent of the absences. For the Department as a whole, sick time and unauthorized absences totaled the full working time of 1,257 persons in 1950. This amounts to the loss of over 4 percent of the working force. Since most of these absences were incurred presumably for sickness and without loss of pay to the individuals concerned, approximately \$2,000,000 in the Departmental allotment for personal services was thereby lost. Although employee absences are inevitable because of sickness and serious family problems, it is felt that the Department's rate of absenteeism is excessive and has a detrimental impact on the operation of institutions and the care of patients. To alleviate the situation, it is recommended that the Department adopt more rigid personnel rules, regulations, and policies regarding employee absence.

### Training of Nurses

As in the case of other medical and hospital institutions and agencies in the country today, the municipal hospitals of the City of New York are experiencing a serious shortage of trained nurses. Presently the Department of Hospitals has only 3,594 registered nurses as against an authorized 6,778 or only 53 percent of its authorized complement. Practical nurses now occupy over 2,000 positions authorized originally for registered nurses. In many institutions they assume, of necessity, graduate nurse functions and responsibilities.

Some measure of early relief of the graduate nurse shortage is imperatively needed, inasmuch as the shortage in departmental institutions makes extremely difficult the provision of minimal nursing care to patients, adequate supervision of auxiliary nursing personnel, and instruction of student nurses and trainees.

The Board of Hospitals has recently taken the commendable action of recommending to the proper State authorities that nurses be registered by the State after two years' training either on graduation or after an additional year of employment under supervision in a Department hospital. Adoption of a two-year accelerated curriculum would have the immediate effect of expanding present school facilities by approximately 33 percent in that the equivalent of one additional class would be graduated every two years.

It is recommended that the two-year curriculum be adopted as soon as State regulations permit, that present admission requirements be retained, and that the curriculum be arranged so that qualified students who satisfactorily complete one year may receive certification as practical nurses if they do not desire to continue to graduation.

The present six departmental schools of nursing are operating at full or near capacity. In 1950, their enrollment, including Lincoln School which is operated under voluntary auspices in close affiliation with Lincoln Hospital, was 1,411. The total number of students graduated in that year was 350. The inadequacy of this rate is reflected in the estimate that the Department will require 11,200 graduate nurses in the next ten years. This estimated demand is based on the fact that 2,100 are needed to fill existing vacancies, 2,800 may be required for



new facilities, and 6,300 may be needed as resignation replacements.

Accordingly, it is recommended that action be taken to relieve the shortage of nurses by establishing additional schools of nursing. The Department of Hospitals should work with the Board of Higher Education to find the best means to utilize City educational facilities and teaching personnel to advantage in the training of New York City residents for departmental nursing services. Also, a complete review of work and positions involving nurses should be undertaken so as to eliminate the use of registered nurses where such qualifications are not absolutely necessary.

### **Financial and Residential Eligibility**

Policies and practices in financial investigation require substantial amendment to enable adequate investigation of financial eligibility of patients prior to admission, to require patients to make full or part payment if at all possible at time of discharge, to charge for outpatient clinic visits, and to co-ordinate the work of financial investigators and compensation and liability clerks. These changes will be a necessary corollary to the new admissions policy which is recommended as a result of this survey.

Although the method of ascertaining medical indigency is satisfactory, the results from financial investigation are extremely poor because of the Department's present practice of not investigating patients until after they are admitted. This results in the admission of medically non-indigent patients who are able to afford care in voluntary and proprietary hospitals. Approximately 17 percent of total admissions are estimated, as shown previously, to be in this category.

The process of collecting payments for hospital care also is weak. Except on

rare occasions, patients who are adjudged able to pay are not billed until after discharge from hospitals. Bellevue Hospital Center is an exception to this. The large backlog of over 11,000 delinquent uninvestigated general patients' bills has been mentioned previously when it was pointed out that approximately \$350,000 is estimated to be collectible from this source alone.

Because of these conditions, it is recommended that patients be thoroughly investigated for financial and residential eligibility prior to admission and that they be required to pay, or make arrangements to pay, for hospital care at time of discharge.

It is estimated that 41 additional investigators will be required at a cost of approximately \$123,000 annually on the basis of an annual salary of \$3,000 per investigator.\* Also needed are approximately 24 clerks to assist the investigators in clerical details. On the basis of a salary of \$2,000 per clerk, an additional annual personnel cost of \$48,000 would be incurred. However, the additional cost of providing the required investigation personnel appears relatively slight in comparison to the benefits to accrue from their work. Substantial additional revenue may be anticipated from patients discovered to be financially able to make part payments for services received by them. In addition, the screening out of the medically non-indigent prior to admission would reduce the critically large patient load, making it possible for institutions to provide more adequate service to the medically indigent. Estimated on a conservative basis, intensified efforts should increase the present

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\*ED. NOTE: Forty-one positions totaling \$108,360 have been provided in the 1952-53 budget for this purpose.



collections from patients by at least 5 percent after deducting collections of approximately \$3,500,000 received annually from full-pay patients. The increased revenue to be derived on this basis would be about \$568,000 or a net gain, after deducting additional personnel costs, of \$397,000.

It is probable that a financial investigation of all out-patients at departmental general hospitals would reveal that a substantial number are not medically indigent and should be receiving care at other than Department facilities. Likewise, it is probable that a large percentage of the remaining patients would be found to be able to pay part of the minimal costs involved. At present no charge for out-patient services is made at any Department hospital, nor are out-patients investigated financially. They are required to sign statements attesting to their medical indigency, but these are seldom referred to as a means of restricting admissions to the medically indigent. This "open door" policy as applied to out-patient admissions results in an extreme overcrowding of out-patient services leading to substandard operating conditions.

During 1950 a total of 400,249 out-patients were treated in general hospitals. Of this number, 20 percent or 80,000 are estimated by Department Out-Patient Dispensary personnel to be medically ineligible for clinical care, while 50 percent or 20,000 are estimated to be financially unable to obtain care at non-departmental facilities. Of the remaining 300,249 patients, it is estimated that 50 percent or 150,000 would be able to pay in full because the average costs are small compared to in-patient costs. On the basis of the 1950 average total annual cost of \$6.10 per patient, annual revenue amounting to \$915,000 would be pro-

duced by charging \$1 per visit for out-patient service.

The estimated cost of personnel required to obtain this revenue is \$253,000 and is derived in the following manner. Assuming that out-patient investigations can be accomplished at the annual rate of 4,500 per year, 71 financial investigators would be required to screen the anticipated out-patient load of 320,000 (400,249 out-patients minus 20 percent to be excluded by admitting clinics). At an annual salary cost of about \$3,000 per investigator, the total cost would be \$213,000. On the basis of at least one clerk per out-patient service or one for each 25,000 patients, 20 clerks would be required. At an annual salary of \$2,000 per clerk, total clerical salaries would amount to \$40,000 or a grand total for additional personnel costs of \$253,000.

The total estimated revenue of \$915,000 minus total personnel cost of \$253,000 leaves a net gain for the Department of \$662,000.

To obtain the advantages of a reduced out-patient load and additional revenue as outlined, it is recommended that the Department set up a schedule of charges for all out-patient services in general hospitals.

### **Uninstalled Equipment**

A tabulation was made of approximately \$340,000 worth of major items of equipment now on hand but uninstalled. This is startling in view of the demand and necessity for the items in question. With delays in examination and diagnosis still prevalent throughout the hospitals, in spite of recent departmental efforts to place this on a current basis, it is incredible that X-ray machines, sterilizers, autoclaves, and many items of laboratory equipment still re-



main uninstalled because of a quagmire of indecision, confusion, and delay. Some of this equipment, specifically identified, has been ordered, delivered and left crated for as long as four years. The result is that many operations are either at a standstill or are being performed with inferior, obsolete, or defective equipment. An example of this is that failure to install over \$20,000 worth of X-ray equipment at Sea View Hospital has resulted in a delay in discharge procedures relative to its tuberculous patients.

To prevent uninstalled equipment inventories in the future, it is recommended that installation estimates be included in the budget and on purchase requisitions and that private contractors and vendors be utilized for installation wherever possible.

The installation of equipment now on hand would add immeasurably to the ability of Department hospitals to serve their patients. The benefits accruing from better care, shorter stay, and improved work performance are especially significant when institutions are overcrowded and a shortage of employees may prevail.

### **Expansion of Maintenance**

In addition, because the numerous old and poorly constructed buildings and plants comprising many of the Department institutions are in deplorable condition from a maintenance and repair standpoint, it is recommended that plant and equipment maintenance and preventive maintenance activities be expanded. This would involve developing programs of action; augmenting maintenance staffs in some instances; obtaining adequate budget allowances; operating

maintenance shops; and controlling and scheduling work projects.\*

### **Appointment System**

Other procedures requiring attention for accelerating and improving the operation of institutions include such matters as the creation of an appointment system in out-patient services and co-ordination of out-patient and in-patient services to effect maximum utilization of facilities and staffs. The importance of these recommendations becomes apparent when it is noted that a total of 400,249 out-patients were seen in clinics during 1950 and that their visits totaled 2,091,166. An additional 8,864 out-patients were seen in special hospital clinics, with total visits numbering 50,140.

### **Expansion of Laboratory and X-Ray Services**

Although the Department has effected partial solutions to the problem of deficiencies in ancillary diagnostic services, many of the needs have not been met. Certain hospitals are urgently in need of expanded laboratory and X-ray services to meet the increasing use of roentgenology and laboratory examinations. The volume of this work during 1950 amounted to 636,947 X-ray examinations and 4,937,450 laboratory examinations.

It is strongly recommended that the Department accomplish the installation of the additional facilities and augmentation of staffs required to effect its laboratory and X-ray "bottleneck" programs. Accelerated production of these services would result in quicker diagnosis, treatment, and disposition of

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\*ED. NOTE: Twenty additional positions in various mechanical titles, totaling \$91,250, have been provided for in the 1952-53 budget.



many patients. This would eventually result in net savings to the Department of approximately \$2,000,000 annually.

This is determined by examination of hospital stay and cost figures. Present hospital stay in departmental general hospitals is 17.4 days. Even a small reduction of 10 percent in this figure, brought about by recommendations relative to laboratory and X-ray services would result in substantial dollar savings. Ten percent of total general hospital ward days in 1950 amounted to 375,398 days. These days, multiplied by the average cost of \$11.90 per day in 1950, cost the Department \$4,467,236. If only one-half of this saving could be realized, because of inability to eliminate fixed costs, the net annual savings would approximate \$2,000,000 after deducting costs for new equipment and additional personnel which cannot be accurately estimated at this time.

### **Employee Health Services**

Although the Department has a policy pertaining to employee health examinations, very few of the institutions have established employee health services of sufficient scope to carry it out. Absenteeism for reason of illness was allegedly the cause for over 70 percent of the 316,866 total days of absenteeism among Department personnel as a whole. It comprises a major problem with the imperative necessity for exercising every effort to provide comprehensive health supervision of good quality for Department employees. It is recommended that such a policy be carried out. It is estimated that 11 additional full-time physicians will be required on the basis of providing one physician for each 1,500 employees. At an average annual salary of \$3,500, the additional total cost involved would be only \$38,500. Improved health services would

benefit the Department and its institutions in that a physically more effective working force would be available to carry the large work load imposed by the volume of patients.

### **Feeding of Employees**

The matter of employee feeding is important to the Department. There is no question that the Department must continue to provide meals for its employees. However, there appears to be little reason to perpetuate the present practice of what amounts to a subsidy of institutional employees by not charging many of them any part of the cost and by collecting only token charges of 15 cents to 25 cents per meal from others. In 1950, the average number of meals served employees daily was 34,344. The total raw food cost for employee meals for that year was \$3,165,657. The amount collected from employees who paid was \$102,712, leaving a deficit of \$3,062,945 on the operation as a whole. The present schedule of charges was set in July, 1940, and is no longer realistic in view of an increase of over 167 percent in the wholesale Food Price Index of the Bureau of Labor Statistics since that time.

When it is considered that salary readjustments are to be expected as a result of the recommendations of the Mayor's Committee on Management Survey, it would be only equitable, at the time these adjustments are made, to charge Department employees the true cost of raw food in meals served to them. Their present advantages in this respect constitute discrimination against other City employees, including the Department's own central office employees, who must pay their own way.

To terminate this inequity and to relieve the taxpayers of at least a portion



ESTIMATED COSTS, REVENUES AND SAVINGS FROM RECOMMENDATIONS

Recom- men- dation Number	Organizational Unit or Operation	Additional Annual Costs		Annual Operating Savings and Additional Annual Revenue		Revenue Obtainable but Not on an Annual Basis	Capital Budget Reductions
		Number of Additional Personnel	Additional Annual Personnel Costs	Operating Savings	Operating Revenue		
	<b>Central Administration</b>						
4	Office of the Budget....	10	\$ 35,000				
13	Division of Personnel (Training Section) .....	10	35,000				
14	Division of Statistics (Graphics Section) .....	4	12,000				
28, 30	Limiting Admission to Medically Indigent .....			\$ 1,721,812			\$32,200,000
29, 30	Concentration of Cus- todial Patients .....			5,522,450			18,700,000
34	Division of Accounting (Payroll Procedures).....			12,000			
36	Division of Collections (Investigating Delin- quent Accounts) .....	6	17,000			\$4,350,000*	
37	Division of Purchase (Requisition Process).....	5	13,000				
	<b>Institutions</b>						
52	Hospital Centers, Gen- eral Hospitals and Special Hospitals (Divi- sion Heads and Ad- ministrative Assistants)..	37	180,500				
57	Hospital Centers, Gen- eral Hospitals and Special Hospitals (Di- rectors of Medico- Administrative Services)	12	60,000				
58	Hospital Centers, Gen- eral Hospitals and Special Hospitals (Di- rectors of Ancillary Services) .....	24	120,000				
61	Custodial Institutions (Division Heads and Administrative Assist- ants) .....	3	17,000				
67	Coordinators of Vol- unteer Services .....	23	92,000				
69	Admitting Clinics (Pro- posed 24,250 Annual Two-Hour Sessions).....		230,375				
70	Diagnostic Clinics (Pro- posed 32,800 Annual Two-Hour Sessions).....		410,000				
72	College Point Clinic Dissolution .....			76,194 2,000,000			
73	Admitting Procedures....						
83	Financial Investigation of Inpatients.....	65	171,000		\$ 750,000		
84	Financial Investigation of Outpatients .....	91	253,000		915,000		
94	Acceleration of Pro- grams to Relieve Labo- ratory and X-ray Service Deficiencies.....			2,000,000			
95	Improvements in Em- ployee Health Services..	11	38,500				
96	Employee Meals .....				3,000,000		
	<b>TOTALS .....</b>	<b>301</b>	<b>\$1,684,375</b>	<b>\$11,332,456</b>	<b>\$4,665,000</b>	<b>\$4,350,000</b>	<b>\$50,900,000</b>

TOTAL ANNUAL OPERATING SAVINGS AND ADDITIONAL REVENUE..... \$15,997,456  
NET ANNUAL SAVINGS ..... \$14,313,081

\*ED. NOTE: Represents change in consultants' estimate from \$8,550,000 quoted in published Report.



of an unjust burden, it is recommended that the Department raise the price of meals to cover at least the cost of raw food. It is estimated that these actions will recover, at the present volume of meals consumed, over \$3,000,000 annually.

### **Savings**

The recommended improvements resulting from this survey will place the New York municipal hospitals in a position to carry out major objectives and policies in an effective manner, smooth the flow of work between headquarters and institutions as well as

within the hospitals themselves, reduce the heavy rate of absenteeism, lower operating costs in many areas, and generally raise the level of performance and efficiency. Specific recommendations on charging for out-patient clinic visits conservatively will produce net revenues of \$662,000 annually, charging realistically for the feeding of employees will bring \$3,000,000, and the improvements in X-ray and laboratory services should free enough beds by shortening patient stay to save approximately \$2,000,000 in operating costs. These items represent total savings and increased revenues amounting to \$5,662,000.

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## **SECTION 2**

# **ACTION OF THE MAYOR'S COMMITTEE**

### **Program Policy**

(1) The City of New York has from its earliest days maintained free public general hospitals for two specific purposes: first, to care for those who cannot afford to go to private hospitals, and second, to care for emergency cases. This definition of purposes is clearly recognized in the City Charter. However, we find that the hospital admissions policy of the City of New York is now such that the City hospitals, during the year studied, have given service to thousands of individuals who could afford to pay for their care sufficiently to go to private hospitals or who do not need complete hospital care, and that considerable congestion in the clinics, where the service is free to all, is caused by persons who do not really need the at-

tention of the attending physicians. While the Commissioner of Hospitals has disputed the size of the problem, he has not suggested that the basic finding is in error. He pointed out that the lack of accepted medical definitions as to what is or what is not a "custodial case," an "emergency case," or a "chronic case" makes it impossible for the Department to present exact statistics on such cases, and stated that he believed that when satisfactory figures are available from a study now under way, it will be found that the conclusions of the consultants may be modified. On the other hand, the position now taken by the consultants was taken in a finding in 1949 by the State Department of Social Welfare after an extended survey, and was reaffirmed by



Dr. Eli Ginsberg in his State-wide hospital policy survey. At the New York City Health Conference held at the Academy of Medicine on November 16, 1951, attended by a notable group of medical and hospital leaders of the community, the same point was repeatedly called to the attention of the Mayor's Committee on Management Survey.

(2) As the result of these expert findings, independently arrived at over a period of years, and of our own observation based on not a little direct knowledge of the situation, we conclude that the hospital admissions policy and the free service policy now followed in New York are overgenerous, and therefore overexpensive. This is not primarily the fault of those who manage the hospitals. It arises, we are convinced, from the warm heart of the community and the lack of clear thinking as to what the public hospitals are for. We are living in a day when families are mobile and homes are crowded, so that the family does not find it easy to carry its responsibilities of care and support for the sick and the aged within the family circle. However, the transition to insurance funds has been developed only partly and is still on an experimental basis, so that "free service" is quickly absorbed, not only by those who need it, but also by those who do not need that particular type of service, or are well able to meet the costs. Under these conditions, the City must not slip thoughtlessly into free and overgenerous service. Such a policy is beyond the financial means of the community.

(3) We therefore recommend that the City of New York now take a firm stand and define the hospital admissions policy so as to limit admissions to emergency cases and to those in real need of hospital care who are not able to meet

the costs of such care within their family circle. We recognize that this policy will call for other types of custodial care and for increased payments to private hospitals and homes in caring for public charges. To enforce the new policy and to avoid errors, the admissions procedure and the admissions staff must be greatly strengthened. This will require additional appropriations for staff, an increase which will be more than returned in due course through the lessened load of hospital cases.

(4) The new admissions policy will very greatly affect the capital program. We understand also that dramatic developments in bringing additional contagious diseases under control, particularly tuberculosis, will have a further important effect upon the City's future hospital needs. We find that the original construction program was drawn with the past admissions policy and past needs in mind. We cannot say too emphatically that the City cannot afford City hospitals except to meet a manifest community need. We therefore endorse the shift in emphasis which the Commissioner has recommended in connection with the immediate hospital construction program and recommend that the long-term program be further reviewed in the light of the recommended new admissions policy and in the light of total community requirements, considering both public and private facilities. The totally new capital program should be drawn with full awareness of the financial stress which the City faces.

### **Major Management Policies**

(5) The Report of the consultants contains numerous direct and indirect criticisms of the management controls imposed on the Department of Hospitals by the Bureau of the Budget and by the



Civil Service Commission. The Commissioner of Hospitals and various well-informed civic groups have also stated that many of the troubles of the Department are due to these factors. While we accept this serious criticism of the City's budget and Civil Service operations, we cannot agree with the position taken by some that the Director of the Budget or the Civil Service Commissioners are personally responsible for this situation. We believe that the difficulties grow primarily out of "the system" and a combination of circumstances for which none of the present incumbents is responsible. We point out also that vigorous budget controls are required in any large-scale administrative system, and that departmental directors will always be unhappy about the restraints under which they must operate in a responsible governmental system. We take up the fundamental problems involved\* in the general Report of the Mayor's Committee on Management Survey.

(6) The consultants have called attention to the \$9,000,000 in uncollected bills for hospital care assessed against persons who were, on investigation, determined to be able to pay. We recommend that immediate efforts be made to collect these bills, although we think the actual realization may be considerably less than the total of \$4,000,000 estimated by the consultants. They should be collected promptly or written off, except in those cases where some form of delayed settlement can be arranged. In order to avoid building up a large temporary force to process these back bills, we suggest that the Director of the Budget explore the possibility of contracting the task to a commercial agency under suitable restrictions.

(7) We find that the method of determining capacity to pay is not adequate or satisfactory. While we hope that the recommended strengthening and decentralization of the present system will produce better results, we feel that an additional important contribution can be made with the assumption of certain defined parts of the resource investigation by the Department of Welfare through its regular channels. The unification of investigations, case files, and records will result in much more accurate and prompt determinations. The present investigations involve extensive duplication of work and are inherently a waste of time and effort. While we recognize that the Department of Welfare cannot assume complete responsibility for the required economic investigations because of the need for unified administration of admissions policy at the hospital level, some form of joint action by the two Departments should be worked out immediately.

(8) The type of problem discussed in paragraph 7 above calls for the establishment of a permanent City-wide interdepartmental council or conference which will bring together regularly the major departments concerned with education, health, hospitals, and welfare as recommended by the New York City Health Conference, assembled on November 16, 1951, under the auspices of this Committee.

(9) While we appreciate that the hospitals will have to continue to serve meals for their employees because of their locations and other factors, we concur in the recommendation of the consultants that meals be furnished at cost. However, we recommend that this be done only when salary scales are adjusted for the employees of the hospitals, since the Griffenhagen study shows

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\*ED. NOTE: See Volume I, Chapters I and II.



that hospital employees are not now adequately paid. When this desirable shift is made, we feel certain that there will be some net savings as well as much greater justice to all concerned and a better basis for good management. But the savings will not amount to \$3,000,000 or any comparable sum. We therefore deduct this sum from the savings anticipated from the management recommendations we are prepared to endorse.

### Organization and Procedures

(10) On receipt of the survey Report, the Commissioner of Hospitals joined the Committee in immediately endorsing the organizational and procedural recommendations. We therefore now recommend that the Mayor and Board of Estimate take a similar position and authorize the Commissioner to install the organizational and procedural recommendations of the survey Report.

(11) The Barrington Report on office mechanization\* refers to a number of improvements in methods and procedures which should be made in the Department of Hospitals, in connection with the more adequate handling and mechanization of the billing, collecting, and accounting system. We believe that these changes should be adopted, and that they can be installed by the Department itself, with technical aid on some points from the manufacturers of the appropriate office equipment and from the Division of Analysis of the Bureau of the Budget.\*\*

### Implementation\*\*\*

(12) We recommend that the Board of Estimate authorize the Department

of Hospitals to enter into a contract with the consultants who made the hospital survey for the Mayor's Committee on Management Survey, to carry through the major management improvements which we have endorsed. This contract should be between the Commissioner and the consultants, as nothing worth while can be accomplished except under the Commissioner's leadership and direction.

(13) From our study of the situation, we would expect that the management installations will cost about \$100,000 for the outside consultants and \$1,600,000 for increased departmental allowances for new supervisory and service personnel and other costs, in general line with the recommendations already presented in detail by Booz, Allen & Hamilton. We regard this investment as not only justified in connection with the approximately \$100,000,000 expense budget of the Department, but as urgently needed immediately to guarantee the best possible use of that sum. After the recommended changes have been made, not less than \$6,000,000 will be saved each year, in our judgment. And what is even more important, the hospital service of the City will, in the process, be greatly improved for the benefit of all.

(14) We note for the record that the Department of Hospitals requires additional office space for the headquarters staff. The present offices are overcrowded, and additional space will be essential in carrying out the recommendations we have presented.

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\*\*\*Since the above recommendations were acted upon by the Committee, the Mayor has accepted Recommendation Number 8, and created the Co-ordinating Council for Health. As a substitute for Recommendations 12 and 13, the Director of the Budget and the Commissioner of Hospitals have undertaken a series of studies and installations along the lines recommended.

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\*ED. NOTE: See Chapter IX, Section 3.

\*\*ED. NOTE: Eleven additional key punch and tabulating positions totaling \$25,700 were provided in the 1952-53 budget.



## CHAPTER XVI

# Health

### EDITORIAL NOTE

Major responsibility for the health program of the City of New York rests with the Department of Health. However, other departments of the City are wholly or partly concerned with certain aspects of public health. These include the entire program of the Department of Hospitals, the major responsibility of the Department of Sanitation, some activities of the Department of Welfare and the Department of Water Supply, as well as such programs as sewage treatment, slum clearance, and the like.

Thus, the City's health program is far broader than the work of any one department, even though the traditional health activities are primarily thought of as those assigned to the Department of Health. In other cities, certain of the above-mentioned activities are actually part of the Health Department program.

A traditional "efficiency and economy" study of the Department of Health would clearly have been too narrow for our purposes—it was recognized that the Mayor's Committee's project in this area had to take into consideration the tremendous changes which have taken place in almost every aspect of public health activities during the past fifty years. These include such developments as:

- (1) The great progress, continuing at an accelerated rate, of medical science, both curative and preventive.



(2) Extraordinary advances of public health science and administration resting primarily on research, experimentation, and practical demonstration.

(3) Marked changes in the pattern of morbidity and mortality rates.

(4) Changes in public acceptance as to what constitutes minimum sanitary and hygienic facilities and practices.

(5) Changes in the composition of the City's population from a young to a relatively older population and from a predominantly immigrant to a predominantly native-born population.

(6) The continuous movement of large numbers of families from the old congested areas to the outlying districts of the City.

(7) Increased demand for diagnostic and treatment services for needy families.

In the light of the above, the project was broken down into two major studies, with the first giving emphasis to *basic programming* in all areas of health, including observations as to how the present departmental organization and activities fit into the pattern of needs, and the second embracing the *business management* aspects of operation. This latter was conceived as necessary in view of the fact that the Health Department is among the relatively few City departments and agencies in the over-ten-million annual budget category.

The first study was undertaken by a special staff assembled by the American Public Health Association, Inc., and the resulting Report is digested in Section 1 of this chapter. The project-directing team under APHA auspices consisted of four authorities on public health: Roscoe P. Kandle, M.D., Field Director, Committee on Administrative Practice, American Public Health Association; Abel Wolman, D.Eng., Professor of Sanitary Engineering, John Hopkins University; Hugh R. Leavell, M.D., Professor of Public Health Practice, Harvard University; Ira V. Hiscock, D.Sc., Head of Preventive Medicine, Yale University.

The recommendations developed by this team were reviewed by a panel of advisors composed of nationally known authorities. A broad view of the recommendations was obtained at a special conference on public health administration, organized by the Headquarters Staff of the Mayor's Committee, to which



leading authorities in the public health field were invited. This conference was held November 16, 1951, at the New York Academy of Medicine.

The second study was conducted by Barrington Associates, Inc., whose Report is digested in Section 2.

Both consulting groups were, of course, vitally interested in matters of organization. However, in line with liaison developed, the major study of this subject is contained in the Barrington Report with certain additions and differences in the APHA Report. The latter develops in detail the problem of district health administration, and differs from the Barrington Report primarily in its recommended abolition of the Bureau of Sanitary Inspection. (The Barrington engineers, in conference after the Reports were issued, expressed agreement with all APHA additional organizational suggestions not explicitly in conflict with their own.)

It should be noted here that in its final action the Mayor's Committee differs with its consultants on various matters. For example, it calls for gradual decentralization of the health program, rather than insisting upon the Barrington Report's recommended formal reorganization, and for reasons stated does not agree with the APHA abolition of the Bureau of Sanitary Inspection. It also questions the need for two bureau heads in the Office of Environmental Sanitation, called for by APHA. The Committee does not accept literally the dollar savings in clerical effort claimed as possible by Barrington.

The Committee is in essential agreement with the broad future programing as proposed in the APHA Report, reserving, in view of the considerable expenditures involved, specific endorsement of immediate fluoridation of the City's water, pending the realization of equivalent economies in administration. It calls for caution in dealing with recommendations for intensified activity in mental health, and for reconsideration of recommendations on tuberculosis in view of recent developments in the treatment of that disease.

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## SECTION 1

**PROGRAM AND ADMINISTRATION**

BY

AMERICAN PUBLIC HEALTH ASSOCIATION, INC.

The Department of Health of New York City was once an outstanding leader in municipal health affairs. It was also a national leader in public health methods, in teaching, and in research. It was one of the best health departments in the country. It no longer is. A careful review fails to disclose, during the past 25 or 40 years, a similar flow of major contributions which characterized the Department in the earlier part of the century.

New York City has unique public responsibilities as an international center for the training of practically every type of health worker. By reason of its fame, geographical location, and concentration of facilities, New York City also inevitably functions as an observation and training center for visitors from this country and from all over the world. New York City thus has the opportunity and the obligation to present an outstanding example which would be reflected simultaneously in superior services for the residents.

The "Astoria Plan" for school health services, identification of rickettsialpox, simplified techniques of orthodontia, studies resulting in improvements by sanitation equipment, the improvement

in day-care facilities for children, and the Red Hook-Gowanus combined nursing service are examples of more recent contributions of the Department of Health which indicate that the high qualities of imagination, zeal, and leadership are not gone, but only dimmed.

**Department of Health Program**

The major responsibility for the health program of the City of New York rests with the Department of Health. In 1950-1951, the Department had almost 5,000 employees, of whom nearly 4,200 were on a regular full-time basis, with a budget of slightly over \$17,000,000.\* Its work includes maternal and child health services; school health and health examination of pupils; control over communicable diseases and venereal diseases; tuberculosis and cancer prevention; mental health services; laboratory and diagnostic services; production and distribution of vaccines and biologicals; inspection of food, drugs, barber shops, etc., and licensing; hospital and institutional inspecting; public health education, including home safety and nutrition; public health nursing service; district health centers; vital statistics

Digest from "Study of Department of Health of the City of New York," by American Public Health Association, Inc., January, 1952. industry in the manufacture of food

\*ED. NOTE: Includes some \$3,000,000 appropriated to the Board of Education, but expended by the Health Department on school health services.



and records; environmental sanitation, including tenements, heating, water, beaches, alleys, lots, landfills, and sewage disposal; and mosquito, rodent, and ragweed control.

### **Other Health Programs in New York City**

Many other departments of the City are wholly or partly concerned with various aspects of public health. These include the Department of Hospitals with 30,000 employees and a budget request in 1951-1952 of \$96,500,000; the Department of Welfare with its large medical and dental program; and the Department of Education, which shares responsibility with the Department of Health for the health program of New York's school children. The Department of Water Supply, the Department of Sanitation, and the programs of sewage treatment and slum clearance are to a large extent concerned with health. Certain aspects of the Park Department, as well as the program of city planning and zoning which relates to residential protection and working and commuting conditions, are concerned with health, broadly defined. The defense emergency program, with all its plans and organization, is concerned with human life and safety.

Agencies supported by voluntary funds also supply a large part of the community services. There are 79 voluntary general-care hospitals, of which 69 have out-patient departments open to the public. There are over 50 voluntary agencies interested mainly in health, which have annual expenditures approximating \$13,000,000.

Thus, the City's health program is far broader than the work of any one department. The co-ordination of these departments with each other and with

the voluntary resources available is a major problem.

### **Fundamental Principles of Health Survey**

At the outset of this survey, the following fundamental principles were recognized:

(1) That employment of efficient personnel under conditions permitting the most effective utilization of their talents is indispensable.

(2) That teamwork among those professionally trained, supported by competent assistants, is essential.

(3) That joint operations by government departments and voluntary agencies and greater co-ordination and integration of their activities in the City's total program are necessary to minimize duplication and increase effectiveness.

(4) That emphasis on quality of service is the most effective way to use manpower and money and helps offset gaps and deficiencies.

(5) That the Department of Health, as the key unit in the highly complex network of the City's health services, should use its broad powers to the fullest extent.

### **Major Problem Areas**

The study was focused on the following major problems:

(1) Procedures of the Municipal Civil Service Commission and budgetary controls which frequently cause vacancies and turnover in key technical positions.

(2) Necessity for a better working relationship between the Department of Health and the Bureau of the Budget, so that authority and responsibility for the best use of available funds will be in the operating department.

(3) Relationships between the Department of Health and the work of the Health, Welfare, and Hospital Councils; development of effective



community planning machinery and interagency co-ordination in district health services.

(4) Extension of the work of voluntary associations in medical, nursing, and allied fields; optimum use of nongovernmental resources for health services.

(5) Need for applied research and evaluation; desirability of fluoridation of the water supply; results of tested procedures for the reduction of tuberculosis.

(6) Inadequate engineering lead-

ership; poor sewerage and sewage disposal in many areas.

(7) Necessity for improvement and extension of public health nursing services; further application of the principles and practices of home care programs.

(8) Location and manner of extending diagnostic and health maintenance services for adults, particularly the aging.

(9) Need for an extensive reorganization and reorientation of health education services.

## HEALTH PROBLEMS OF NEW YORK CITY

### Health of Mothers and Children

New York has a creditable record in maternal and child health and at various times has been a leader in the field. At present, imagination and industry in this field coexist with low salaries, expensive turnover, and vacancies in key positions.

Health services for mothers and children merit a high priority of future attention. Increase in quality and quantity of services and more equitable remuneration and tenure of the professional staff are required.

Of the 157,000 babies born in 1949, 49,000 were born on the ward services in general hospitals. Nearly 25,000 were born in the City-operated hospitals. The quantity and quality of medical and public health services which many of these mothers receive during their pregnancies are inadequate. Such antepartum services are the very essence of preventive medicine. They save the lives of mothers and infants and avoid the untold misery caused by complications of pregnancy and childbirth. They also save many dollars which otherwise would be spent on subsequent hospital care, medical care, and assistance for ill mothers.

Improvement in these services must come from improved operation of City hospitals, greater efforts on the part of voluntary hospitals, and some sharing of staff by the Departments of Hospitals and Health. A revision of Section 110 of the Sanitary Code is necessary.

Prematurity is at present the chief cause of death among infants. Hospitals having more than 1,000 deliveries a year should develop more adequate premature infant services. These services require some subsidy, but the amount of money required is not large.

The "well child conferences" held throughout the City to provide health supervision of infants and children need further strengthening, although the general quality is good. A few conferences may be discontinued while some are needed in other areas. The system used to obtain new locations for clinics does not take into account suitability of existing locations, geographic factors, or present loads.

Progress in day-care services for children, which are relatively new, has been made despite persistent staff deficiencies. As of May, 1951, there were 424 day-care centers. Of these, 294 were licensed. It is the policy of the Division



of Day Care and Foster Homes to issue licenses only when a day-care center succeeds in reaching full compliance with the provisions of the Sanitary Code. On application for licensure from a day-care agency, the division's staff explain that they are prepared to give continuing assistance to the agency in order to bring it into compliance. So long as no dangerous conditions exist, such as fire or accident hazards, and the agency demonstrates a continuing effort to bring itself into compliance, the division will continue to permit it to operate and to assist it to improve its standards.

Another major branch of activity is the supervision of foster homes, shelters, and day camps. The infants and children who are placed in foster-care agencies approved by the Department of Welfare are not directly supervised by the division. Approximately 30 such agencies are approved by the Department of Welfare, and certification is made by that Department that requirements of the Sanitary Code are being met. The Department of Health supervises approximately 400 to 500 foster homes; the agencies, 4,000 to 5,000 homes.

Day-care centers are providing care for some 16,000 to 17,000 children. The number of children in temporary shelters is approximately 1,000. It is estimated that there are some 300,000 children attending about 600 day camps during the summer season.

Direct evidence of the contribution of the Division of Day Care and Foster Homes exists in that dangerous and inadequate day-care centers have been forced to close, a large number of centers have been helped to improve their services sufficiently to meet standards and to secure a license, and dramatic

improvements have been effected in provisions for care of children in shelters.

Both the Department of Education and the Department of Health have responsibility for school health services. The Department of Education must treat health education as part of the total educational process and the Department of Health must furnish appropriate health services for the children. The "Astoria Plan" developed jointly by the Departments of Health and Education is one of the few major public health advances which New York City has produced in the last few years. The plan substitutes for the former cursory, rapid medical inspections an orderly screening and referral service, leading to careful physical examinations. The emphasis is on children most in need of care.

The school health services should be gradually extended in the secondary schools, where such services are urgently needed for the adolescent pupils. At present, the child health program suffers from the mediocrity of the rank and file staff, although the size and complexity of the problem require the best possible leadership. The extensive services for school-age children need strengthening. An evaluation of each activity, better public health nurses, and improved interdepartmental planning and operation are required.

Sight conservation, particularly in the classrooms, has not kept up with modern knowledge. Better and more health services in this area are needed, but there is also great need for better lighting in the schools.

Special emphasis should be given to the sight problems of premature infants and of children in their third year. And in view of the seriousness of the unnecessary loss of vision now



occurring, certainly by 1976 every pre-school child over three years should have annually a test for visual acuity and a cover test for muscle imbalance when seen in any Department of Health clinic.

Much more supervisory service should be available in the Department of Health eye clinics, and it is recommended that there be one supervising ophthalmologist for each 25 three-hour eye clinic sessions. Also, the question of providing public health nursing service in the eye clinics should be seriously considered.

## **Tuberculosis**

Tuberculosis remains a major problem of New York City. Its control should be maintained at maximum intensity for the next ten years.

Hospital facilities for the tuberculous in New York are deficient in both quality and quantity. The deficiencies are most acute in Manhattan. Tuberculosis hospitals have been chronically overcrowded for a number of years. Many of the City-supported facilities are not as good in terms of comfort, food, attractiveness, and auxiliary social and rehabilitative services as other government-supported tuberculosis hospitals outside of New York City. This is one of the reasons for the large number of patients leaving the hospitals while still infectious and before getting the full benefits of treatment. The facilities best adapted to modern surgical treatment of tuberculosis are not satisfactory for the elderly patients who often need prolonged custodial type of care. The number of elderly tuberculous patients is increasing.

The shortage of beds is a major source of conflict among the several departments and agencies in the tubercu-

losis control field. Although progress is being made in supplying additional beds through present construction, additional emphasis and priority must be given these needs. It is often impossible to secure prompt hospitalization for a patient unless it is an instance of dire clinical emergency. There is also understandable pressure on hospitals to discharge patients who apparently have reached the maximum benefit of treatment although they still may be infectious. Isolation, however, is as important as treatment of patients, from the point of view of controlling an infectious disease. The exposure of children in the crowded home of a tuberculous patient is a valid and urgent reason for prompt and sustained hospitalization. The situation is often aggravated by the inadequacy of public assistance to the family, usually provided by the Department of Welfare.

This complex problem, related to other problems in chronic-disease control, requires top level action. A Tuberculosis Control Board should be appointed by the Mayor, including representatives from the Departments of Health, Hospitals, and Welfare, the major privately financed clinics, and recognized leaders of tuberculosis control in the City. Effective control of tuberculosis requires that policies of admission, discharge, supervision, and follow-up be made on the basis of the total control program for the City. The determination of policy cannot be left to the individual agency or institution.

## **Adult Health**

The major health needs, treatment excluded, of the adult population of New York City are diagnostic services, detection services, and health education and guidance.



Increasing public demand for service in the field of preventive medicine is anticipated. Indeed, the hope of reducing the overwhelming public costs of chronic illness lies in prevention. Such services, however, need not be exclusively tax supported.

There is need for complete hospital morbidity data and the establishment of a roster of diagnostic, consultative, detection, health education and guidance facilities in New York City.

The diagnostic consultation center at the Lower West Side Health Center should continue, under close departmental supervision and scrutiny, to provide diagnostic consultation service and to carry on applied research in technical and administrative methods. The experience of this center will contribute to the determination of diagnostic consultation needs and cost, and the solution of administrative problems. Efforts should be made to inform the profession of the existence of this facility, so that it may operate at full capacity and yield more extensive and reliable information at lower cost per patient.

The initiation of the proposed two additional diagnostic centers by the Department of Health should be deferred in favor of building up existing facilities in hospitals. A program for diagnostic consultation clinics outside the Department of Health should be developed through a close working relationship with hospitals, both governmental and voluntary; with union, business, and industrial medical services; and with health insurance plans. The opportunities for development of effective diagnostic consultation services through these agencies would seem to be much greater, in the long run, than those which arise from Department of Health operated services. The equipment in storage for the Department's

proposed diagnostic centers could be used to assist other units.

Another aspect of adult health services is the facilities designed to detect disease in its earliest and most treatable stages. The detection services of the Department of Health should be extended and improved through the use of additional screening techniques.

The research program now being conducted at the Kips Bay Detection Center should be continued and augmented by a similar program in one or two additional centers. The Kips Bay Detection Center was opened in October, 1947, as a co-operative project of the Cornell University Medical College, the Strang Cancer Prevention Clinic of Memorial Hospital, the New York City Cancer Committee, and the Department of Health.

A program should be developed for the use of the detection centers as educational devices for the public and the profession. At least one new center should be established in each Borough where such a Department of Health facility does not now exist.

The Department of Health should develop specific disease control programs so as to identify the elements of the total control program and to provide the means whereby each part can be carried out through New York's many resources. This would include programs for cancer, diabetes, glaucoma, and heart diseases of several types. Such programs, however, must reflect sound epidemiological guidance. The Department's adult health program is weak in epidemiological control.

The entire program for adult health should be so organized and administered that the various parts are interwoven properly for the benefit of the whole person and the family unit.



## Environmental Sanitation

The sanitation services of the Department of Health can be improved with small or no additional costs. Considerable training and upgrading of the staff are urgently necessary. This program involves interdepartmental responsibilities and requires co-ordinated effort.

Between 4,000 and 5,000 inadequate and inappropriate home sewage-disposal units are being installed in the New York City area annually. No appropriate advance policy has been formulated either by the Department of Health or other departments to provide for modern sewerage facilities for new developments. There are numerous instances of overflowing cesspools and sewage in cellars and gutters, affecting thousands of people. More inadequate and unsafe house disposal units have been installed since 1946 than were eliminated in the previous quarter of a century.

Public sewer service is being furnished in the Bronx and Brooklyn to 90 percent of the population, and in Manhattan to 100 percent; but in Queens it is furnished to only 70 percent, and in Richmond to only 35 percent. The Department of Health has not acted on major public sewage disposal problems. It should move to regain leadership promptly.

There is an urgent need to fill the position of Director of the Bureau of Sanitary Engineering with a person thoroughly trained and experienced and of recognized standing in the public health field. It will probably be necessary to open the examination to non-residents of New York and to offer a salary of approximately \$10,000.

Complex interdepartmental relationships are particularly apparent in sanitation. For example, the following

agencies have a direct responsibility in the disposal of the sewage:

Department of Health  
 Offices of the Borough Presidents  
 Board of Standards and Appeals  
 Department of Parks  
 State Department of Health  
 U. S. Public Health Service  
 Department of Public Works  
 Department of Housing and Buildings  
 City Planning Commission  
 Department of Sanitation  
 Interstate Sanitation Commission  
 U. S. Army Corps of Engineers

As a means of making the City's multidepartment operations in sanitation as effective as possible, several specific boards or committees are recommended, such as:

(1) An interdepartmental board or committee on housing sanitation, to include representatives of the Departments of Health, Housing and Buildings, Welfare, Parks, Sanitation, Hospitals, of the Housing Authority, and of the City Planning Commission. Other cities, such as Baltimore, Memphis, and Milwaukee, excel New York in this field.

(2) An interdepartmental board or committee on air pollution, including every major department or agency concerned with this matter.

(3) The extension of the agreement consummated in 1951 with the Department of Housing and Buildings on home sewage disposal to include the Department of Public Works, the Borough engineers, and others, in order to eliminate more rapidly the present chaos in new housing developments.

(4) An interdepartmental board on swimming pools and bathing areas.

Milk control activities can now be simplified and reduced by means of State-City, or interstate-City, reciprocal systems and the elimination of certain regulations. It is recognized, however, that the problem of the type and



extent of regulations needed requires further study.

Field inspection services relating to retail establishments and individual premises should be decentralized and integrated with the district health system.

A number of services should be eliminated, such as inspection of meat plants which are under Federal inspection and duplicating collections of water samples in shellfish control. Other services, such as handling of heat complaints and inspections of school buildings, should be transferred to the Department of Housing and Buildings and the Board of Education respectively. A program for the control of home accidents should be developed.

### **Laboratory Service**

The laboratory of the New York City Department of Health is a large service unit performing about one million tests per year. The volume of service depends upon the program and activities of other bureaus, and the success of other programs is often dependent on the ability of the laboratory to render its services. In the past, some of the major advances in disease control have come from the City's public health laboratory.

The laboratory must be considerably strengthened to perform its proper function and to regain its former eminence. Strengthening requires additional facilities of space, probably by means of a new building, and the raising of the morale of the trained and experienced career scientific staff by in-grade salary increases on a merit basis. Equally important for the morale of scientists, and absolutely essential to progress, is the encouragement of applied research by competent staff members. The public health laboratory must be more than a service unit. It must be

a major source of information and leadership by which the more complicated public health programs of the next decades will be planned and guided.

The Public Health Research Institute of the City of New York, supported by the City at a current rate of \$400,000 per year, occupies an intermediate position between the pure science of the Rockefeller Institute and the applied and methodological research which should be more actively prosecuted in the Bureau of Laboratories. The research staff of the institute engages, as is intended and proper, in high-level, long-term, basic research. Its interests are somewhat channeled into particular grooves, although the institute staff is available for consultation. However, the institute's responsiveness to the needs of the people and the problems of City departments has been questioned, and its establishment has also had an unfortunate effect upon studies of methodological and applied research stemming from practical problems. Applied research has, with a few exceptions, almost disappeared.

There must be applied research by the Department of Health. The City can decide how much it wishes to support basic research, which should have a priority second only to the needs of making the operating departments fully effective.

The manufacture of biologicals by the City should be reduced or eliminated.

### **Nutrition**

The present nutrition program of the Department of Health, although representing a good beginning, leaves much to be desired. Periodic surveys of foods consumed and of the incidence of malnutrition, a program of education in good food habits, nutrition clinics for the diagnosis and correction of nutri-



tional disturbances, instruction centers for the training of nutritionists, the securing of adequate food for needy children and for pregnant women and the sick—all these activities should be developed and integrated into the total public health program.

The Bureau of Nutrition cannot alone cope with these problems which extend into the activities of many other departments of the City government, notably the Departments of Welfare, Education, Hospitals, and Markets. Coordination of related activities of governmental and nongovernmental agencies is recommended.

### **Communicable Disease**

A small group of full-time specialists should direct the control of communicable diseases and actively participate in all disease control programs. Traditional control programs can now be reduced to a level of maintenance and vigilance. The field service of the Bureau of Preventable Diseases should be integrated into the district health plan, and the Borough offices of the bureau should be eliminated. The extensive dogbite service should be reduced, and costs transferred to dog owners.

The medical and epidemiological functions related to the communicable diseases are carried out creditably. Personnel turnover is small and many of the staff have served faithfully for long periods, some 20 years or more. There are substantial opportunities for administrative improvement in such a traditionally highly centralized service. The records and the report system can be improved and reduced in volume. The total public health service would be greatly strengthened by less intensive specialization and the assignment of the communicable disease control functions to physicians assigned full time

for generalized service in the district health centers.

### **Venereal Disease**

The venereal disease program should be adjusted and reduced, and a survey made comparable to that made by the American Social Hygiene Association in 1935. The effectiveness of the present program can be improved by an overhauling of the record and report system, a radical revision and reduction of the central registry, and decentralization so that the number of clinics, their time, and details of operation can be easily and promptly adjusted to fit the particular needs of the people of a district and so that instances of over- and understaffing can be eliminated. Better contact investigation should be brought about with higher qualifications and salary for the "venereal disease investigator" position, and with maximum decentralization of investigation and follow-up. Training of per session physicians and nursing staff in interviewing and contact tracing would also help. There should be more rigid check on positive laboratory reports, increased attention to congenital syphilis, increased emphasis on latent and late syphilis and its chronic disease aspects, and intensification of the serological dragnet.

### **Public Health Nursing**

Strengthening and increasing public health nursing services through a drastic program of training, reassignment of duties, reorganization of the Bureau of Nursing, and the administration of nursing through district administration should be a major high-priority project for the next five years. There were 1,180 full-time budgeted positions in the Bureau of Nursing in 1950-51. There were 952 persons on duty in



March, 1951. Here is the backbone of any public health program, and yet in New York City it is seriously weak.

The efforts of the few nurses whose personal and professional qualifications are of the best are weakened by the many who lack the qualifications for discharging their responsibilities effectively. The present Civil Service Commission's examination for the position of public health nurse has for its only requirement the registration for licensure, all public health nursing requirements having been omitted. This requirement for the position of public health nurse is impossibly low and, unfortunately, was introduced at a time when the demand for nursing personnel, because of the enlarged and expanded Department of Health program, was very great.

Today, less than 25 percent of the staff nurses meet the minimum qualifications recommended by professional organizations for their positions. Approximately 30 percent have no preparation for public health nursing beyond basic nursing education; 167, or approximately one-fifth, of the staff nurses have less than two years' experience in public health nursing. The situation is even more serious because the amount of nursing supervision is inadequate and of low caliber.

Of the present supervising nurses in the Department of Health, less than 60 percent have the Bachelor of Science degree recommended for this position by professional organizations, and 18 percent do not even meet minimum recommendations for staff nurses. Many of the supervisors lack the personal qualifications essential for effective leadership.

Specialized consultants are particularly important in a generalized pro-

gram which includes the scope of services provided by the Department of Health. Yet, with few exceptions, consultants in special fields of public health nursing have been appointed from among those having the Civil Service title of "supervisor," but having no interest or preparation in the specialized field of service to which they are assigned.

The actual field activities of the public health nurses are necessarily adjusted to their training and ability. Thus, this lack of a qualified staff establishes a ceiling in types of programs possible and perpetuates the low level of mediocrity.

A major reorganization of the public health nursing service is imperative. Until this is accomplished, there should be no increase in the number of public health nursing positions. There must be a drastic revision of the Civil Service regulations and other procedures affecting recruitment, selection, and working conditions.

## Dental Health

Salaries in the Bureau of Dentistry have not only been low, as Department salaries generally are, but have not been comparable to other bureaus and professional staff. This inequity of salaries demands correction in order to recruit and keep trained staff. The single Civil Service classification for dentists gives no recognition or incentive for public health training. Along with this, the program of the bureau can be strengthened by re-evaluation of its extensive dental health education activities.

New York City is most strongly urged to *fluoridate its water supply as soon as possible*. The use of fluorides—topically and in water—is well beyond the



experimental stage and must be considered seriously for immediate use. The use of fluoride drinking water has been demonstrated to be associated with considerable reduction in dental caries by well-organized and administered studies, such as those at Grand Rapids, Michigan, and Newburgh, New York. In addition, these studies prove that the controlled fluoridation of community water supplies is an inexpensive, accurate, safe, and easily managed method of reducing the dental caries experience. At optimum concentrations (1.0 to 1.5 ppm) no deleterious effect has been noted.

The maintenance cost of fluoridation would be about \$800,000 per year, or 10 cents per person—obviously a “good buy.” In some communities, the cost is being borne by the water users.

The maximum benefits of fluoridated water accrue to those using such water while their teeth are developing and calcifying. In other words, to obtain full benefit the individual should be born and live the first eight years exposed to fluoridated water. In order to get the full potential protection of the fluorides, children above the age of three at the time of fluoridation would require the supplemental protection of topically applied fluorides which reduce new caries experience by approximately 40 percent. The ages recommended for these applications in public health programs are 3, 7, 10, and 13 years of age and thus, for convenience and ease of administration, the service is usually provided for the second, fifth, and eighth grades in school.

It is to be noted that the Dental Health Round Table of the New York City Health Conference on November 16, 1951, made the following statement in this regard: “There was agreement

that the final evaluation of the topical application of fluoride is not yet available. Its continuation (at the present level) in the meantime was approved, pending additional study and application by the Department of Health.”

### **Mental Health**

Mental health is a basic service requiring imaginative and positive approaches. It will be increasingly important in the future. The City's total mental health program should be carefully studied and planned by a Mental Health Planning Council, which should be appointed by the Mayor. Representation in the policy-making group of such an agency should include members of the Departments of Health, Hospitals, Welfare, Correction, and the Board of Education, as well as leaders in the fields of psychiatry, social welfare, clinical psychology, and other related disciplines.

There is still a good deal of uncoordinated, independent activity in the mental health program of the Department of Health. In effect, one may well say that there is no central program but rather a number of separate activities, each undoubtedly valuable in itself, but for the most part unrelated to the others. There is no over-all program, based upon clearly formulated goals, agreed upon as to their importance and order of priority by top administration or its representatives. The Department of Health should set up, or co-operate with other City departments in setting up, a mental health clinic for employees, through its own initiative or in collaboration with an agency such as the Health Insurance Plan of Greater New York.

### **Health Education**

In spite of its great importance, health education is a weak point in the



Department's activities in terms of organization, scope, leadership, results for the moneys expended, and in provision of essential services to related bureaus, to councils and agencies, and to the people.

Actions by the Civil Service Commission and the Bureau of the Budget lowering the required qualifications of the field staff and central leadership have resulted in costly mediocrity. The positions of director, assistant, supervisor, and staff health educators (now called health publicity assistants) should require at least the educational qualifications and experience called for in the recommendations of the Health Council of Greater New York and the American Public Health Association. Salaries and work assignments should be consistent with these qualifications. Provisions should be made for periodically re-evaluating the specified qualifications so that the work of the Department in health education would be of the highest current order, rather than bound by the crystallized requirements of preceding years.

A training unit should be established in the Bureau of Health Education for the purposes of providing:

- (1) Pre-service orientation for its own staff.
- (2) Continuous in-service orientation of its own staff.
- (3) Participation in training programs for all Department of Health staff.
- (4) Accredited field experience for professional students in health education.
- (5) Assistance in the training of many types of students in the City, for example, physicians, nurses, dentists, social workers, educators.

The provision and production of educational materials should be drastically reorganized to produce better results

and to reduce operating costs materially. The field health education staff should be gradually expanded to reach a preliminary goal of approximately one health educator per 100,000 people, from any and all sources, official and voluntary.

### **Hospital Licensing and Inspection**

This study indicated that licensure provisions of the City should be extended to include all hospitals in New York City — municipal, voluntary, and proprietary. Because this is such a complex question, and because a revision of the City Charter would be required, it is recommended that the problem of licensure of all hospitals in the City be given full and serious consideration by the Hospital Council together with the Departments of Health and Hospitals.

At present, the Department of Hospitals is in the unenviable position of operating hospitals and at the same time inspecting hospitals operated by other agencies.\* A double standard is almost inevitable.

Proprietary hospitals show complete compliance with all regulations of Section 110 of the Sanitary Code and are now inspected only once a year. Voluntary hospitals, partly supported by the City or State, show a compliance of approximately 75 to 80 percent with good practices. Compliance of City-owned hospitals is reported as only 10 or 15 percent.

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\*ED. NOTE: The Report on regulatory inspectional and licensing activities by Worden & Risberg recommends that all hospitals in New York City except Federal institutions—namely, City-owned, State-owned, privately-owned "voluntary" hospitals (nonprofit institutions supported partially by public funds), and privately-owned institutions operated for profit—should be regulated uniformly by the City. It calls for transfer from the Department of Hospitals, Division of Institutional Inspection, to the Department of Health, Division of Hospitals, the regulation of private proprietary hospitals and homes.



## ADMINISTRATION

### Personnel and Fiscal Controls

The Commissioner of the Department of Health does not determine the number and kind of personnel, the size and number of clinics, the type of equipment, and many other such details. These matters are decided by the Director of the Bureau of the Budget and his staff. Controls are exercised through the system of having each item, such as an appointment of personnel, the filling of a vacancy or a purchase order, rejustified through the Bureau of the Budget, although each has already gone through the normal, elaborate budgeting process.

These wasteful and harassing methods of budget preparation and control result in inefficient, mediocre service, which is unproductive and hence expensive, and thus control the content and quality of the programs to a very appreciable degree. This control minimizes sustained administration according to plan and emphasizes activities on the basis of expediency. It requires, for successful execution, full technical knowledge of the entire health field as well as a degree of wisdom in details of program administration on the part of the Director of the Bureau of the Budget and his staff; it places them in a situation no one could do justice to.

The budgeting and fiscal control system should be changed so that the responsibility and authority for the administration of the funds budgeted rest squarely on the Department of Health. The responsibility and authority of the Bureau of the Budget should be redefined so that it will no longer be the controlling element of the personnel administration system of the Department of Health. The Civil Service laws

and rules on which the personnel administration practices of the health services are based must be drastically revised, using the materials from this and other parts of the Management Survey as guides. Revision of the Lyons residence law is also urgently needed.

### District Administration

In spite of the great contribution which the district health centers have made, the principle of district health administration in New York City has failed in important respects.\* The basic idea of community or neighborhood health services, specific neighborhood planning, and genuinely co-ordinated effort of all agencies serving the neighborhood, has largely been lost to an emphasis on the district health center as a building. The building, moreover, has become primarily a place where various bureaus provide services through clinics; and the district in turn has become merely a tool of the Department of Health to carry out its program, rather than the focal point of community health planning and service. The concept of district health centers has also failed administratively. The Department has not been able to work out satisfactory administrative methods of operating the districts as they were originally conceived, despite many serious attempts to do so.

In order to attain more effective district health services, a fundamental decision first must be made as to whether the services in districts are to be locally directed on the basis of knowledge of district needs and peculiarities, closely co-ordinated with other local agencies

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\*ED. NOTE: The Barrington Report, Section 2 of this chapter, urges greater decentralization.



and supported by the people of the district, or are to be centrally directed with the degree and manner of decentralization determined by the individual program. Extensive changes of attitude and practice of both the central and field staffs of the Department of Health are necessary. These can only be accomplished with strong, informed leadership. Major administrative changes required include:

(1) The direction of district health services as the responsibility of a single top-level administrator.

(2) Delegation of responsibility and authority for the planning and direction of services within the district to qualified district officers, about 30 in number, evincing the highest caliber leadership, technical competence and experience (such positions to command commensurate salaries and administrative and Civil Service status).

(3) Adoption of the principle that the central office staff be kept reasonably small.

(4) Revision of the budget so that most field services would be provided through budgetary units for each district health service. For example, there would be a specific budget for the Fort Greene District Health Services, on which the physicians, nurses, sanitarians, nutritionists, and others serving that district would be carried.

(5) Decentralization and generalization of the retail food control and inspectional services and their integration into the district health services.

(6) Elimination of Borough health offices except for a few services, such as vital statistics and the receipt of permit fees.

The basic idea in decentralization for neighborhood and district health services is sound and it can work in New York City. Methods must be found to insure this type of program if public health services are to be of maximum

effectiveness and if they are to make progress against the problems of the next quarter-century.

## Training

The training program of the Department of Health must be substantially increased. This applies to such groups as public health nurses and sanitarians, particularly the supervisory staff, the part-time professional staff, and the public health assistants. Many employees with long service are limited by lack of formal training. A unit responsible for training should be established within the Department of Health.

Because of the rigidity and limited scope of training activities resulting from present personnel and fiscal procedures of the City, serious consideration should be given to requesting that the State Department of Health assume responsibility for the formal and much of the in-service training programs. The New York State Department of Health has a dynamic training program with full-time staff. Reciprocal benefits would be derived from the use of the City's resources in the State training program and from the utilization by the City of the extensive resources of the staff of the State Department of Health. It is also likely that this would make possible the use of substantial funds allocated to New York State of which the City does not now have the benefit.

## Interdepartmental Relationships— Teamwork or Competition

Departments of the City government can work together effectively but they have only occasionally done so. This problem is so serious and so extensive that if workable ways were found to overcome the barriers, the results would easily justify the total survey expense



in savings and in increased quality and quantity of service.

If co-operation and co-ordination are to be achieved, it will depend on understanding and a desire for them rather than on organization charts, written orders, and manuals, necessary as they may be. No one method is adequate.

### Community Planning

The Department of Health does not

and cannot operate in a vacuum. Its work can be improved and extended by co-operation with other City departments and by joint planning with voluntary agencies on a community basis. Mobilization of resources will have an important bearing on the future program of the Department of Health. The Health Council of Greater New York and the Welfare Council of New York City should merge.\*

## GENERAL PRIORITY PLAN

The various programs and activities of the Health Department have been arranged in the following order, suggesting a flexible guide for the shifting of resources from the activities which have decreased in usefulness to those which have become more urgent.

#### *Eliminate:*

- (1) Dogbite service; keep small skilled rabies control and public health veterinarian staffs.
- (2) Retail shellfish inspection.
- (3) Duplication of school sanitation inspection.
- (4) Manufacture of biologicals.

#### *Minimize:*

- (1) Communicable disease field staff.
- (2) Records and reports.
- (3) Routine premises inspection of all types.
- (4) Venereal disease central register.
- (5) Nuisance abatement program.
- (6) Meat inspection; use sample instead of 100 percent method for poultry inspection and country meat; eliminate City inspection of meat already Federally inspected.

#### *Operate at maintenance level:*

- (1) Venereal disease control, except for minimizing central register.
- (2) Milk control; transfer to State, Federal, and industrial con-

trol as far as possible.

- (3) Food and drug control.
- (4) General sanitation.

#### *Emphasize:*

- (1) Tuberculosis control.
- (2) Laboratory as a focal point and source of essential data and leadership in the future development of public health.
- (3) Competent public health engineering staff.
- (4) Public health nursing of improved quality.
- (5) Health services to mothers and children.
- (6) Staff training.

#### *Reorganize and strengthen:*

- (1) Health education.
- (2) Statistical services.
- (3) Personnel and budgeting procedures.
- (4) Services to handicapped children.

#### *Develop steadily with exploration of methods and evaluation:*

- (1) Cancer control.
- (2) Control of chronic diseases.
- (3) Adult health services.
- (4) Diagnostic services in existing and other facilities.
- (5) Mental health.

\*ED. NOTE: Merged in March, 1952.



## SECTION 2

**ORGANIZATION AND BUSINESS MANAGEMENT**

BY

BARRINGTON ASSOCIATES, INC.

The objective of the study was a careful review of business policies and procedures, with special emphasis on the opportunities for office mechanization in all departments. The work of the engineers was specified to include a thorough review of all procedures and "paper work." In addition, it was to cover analysis of detailed departmental organization, quality of supervision, judgment with respect to statistical and other control information assembled, and the like.

**Background**

The Department of Health is a big business operation. Its budget at the time of this study was about \$16,000,000. The Department must deal in fantastically large numbers of isolated activities in a single year, such as checking the quality of over 6,000,000 pounds of meat, and over 1,500,000,000 quarts of milk, while at the same time making about 3,000,000 clinical examinations and over 430,000 visits to the homes of the sick. During the year about 50,000,000 letterheads, envelopes, labels, pamphlets, and forms are used.

**Clerical Effort**

For purposes of analysis, all Health

Department personnel were grouped into three classes: (1) full-time clerical; (2) part-time clerical; and (3) non-clerical.

Full-time clerical includes all personnel whose duties and occupations are essentially clerical in a most comprehensive sense. Accountants, selected administrative assistants, bookkeepers, the various grades and classes of clerks, certain storekeepers, secretaries, stenographers, and typists are included.

Part-time clerical includes all personnel who perform non-clerical functions as their principal endeavor but who must perform some clerical functions. This group includes physicians, surgeons, nurses, dentists, veterinarians, technicians, chemists, laboratory personnel, and inspectors.

Non-clerical includes all other personnel who perform little or no clerical work such as elevator operators, laborers, truck drivers, and chauffeurs.

The true clerical effort is the sum of all the work done by the full-time clerical group added to the clerical portion of the work done by the part-time clerical group.

Opinions from various bureau directors, department heads, supervisors, and others who might be informed, indicated that from 30 to 40 percent of part-time clerical groups was spent on clerical effort. Because many of the



doctors, dentists, and professional personnel in the part-time clerical group work on a three-hour-per-session basis, corrections have to be made to adjust the sessions to a comparable working day. After these adjustments were made, the conservative estimate of 30 percent was chosen as representative of the time spent on clerical effort.

While the estimates of degree of clerical effort are approximate, they are also

conservative. On this conservative basis it nevertheless appears that over 45 percent of all man-hours in the Department of Health are devoted to clerical effort.

Of the \$12,000,000 paid for salaries, wages, and compensation, it has been estimated that \$4,000,000 represents a conservative estimate for performing the clerical functions of the Department. This Report is concerned with the reduction of this large expenditure.

## PRESENT ORGANIZATION

The Department of Health is headed by a Commissioner, and the operations are divided into 5 divisions of services each headed by a deputy or assistant commissioner who is responsible to the Commissioner. It is at the divisional level that the broad policy concerning service is determined.

In each type of service to be given, a bureau has been established under the administration of a director. The bureau directors are responsible to the deputy or assistant commissioner of the division to which the bureaus are attached. These bureaus are also policy-making agencies in that procedures are developed for application at clinic level in accordance with divisional policy. These procedures include not only those concerned with the medical and professional phase, but also those connected with the controls on activities and the gathering of necessary statistics.

The district health centers are under the direction of the Bureau of District Health Administration so far as the plan of organization is concerned, and each one is headed by a health officer. The position he occupies under this arrangement is discussed later. With few exceptions, clinic activities are conducted at the district health center

offices and at stations within a district health center. At this level, contact with the public is made, and professional and medical policies and control procedures previously established at divisional and bureau levels are applied.

There has been an effort to decentralize operations to a district health center level. However, this has not been real decentralization as evidenced by the type of organization setup now followed. It is further indicated by the restrictions in business management placed on the district health officers and the confusion with which they must contend because of the authority, implied or otherwise, given all bureau directors to develop procedure.

In the present organization, the one line of authority is considered to flow from the Bureau of District Health Administration to the district health center level. However, this is a fallacy, as in effect there are lines of authority running from each of the bureaus to the district health center level.

The organization of the Department of Health as now constituted does not provide for the efficient discharge of the function of business management. Methods of business procedures are developed almost exclusively by bureau heads.



These business procedures consist of the type and number of forms to be used and the clerical function required in the processing of a case, in accordance with medical policy established by the respective bureaus. While each bureau rightfully establishes the medical policies and procedures necessary in the detection and treatment of a disease, the methods to be employed in public health nursing, and measures to be used to prevent spread of contagion, it also assumes the responsibilities of the business management. In this latter instance, the bureau heads endeavor to carry out a function for which, in general, they are not fitted either by training, temperament, or inclination.

These bureau heads are primarily professional medical men. Accordingly, there is a tendency to restrict business management to the confines of the bureau operation, disregarding the fact that it has a functional aspect that transcends the bureau lines. Because of this fact, each bureau shows a repetition

and duplication of the business function of each of the other bureaus which leads to an excessive number of forms and much extra clerical effort.

The condition is felt particularly at the district health center level where the bulk of clerical effort is concentrated. While the district health center office is under the direction of the health officer who is attached to the Bureau of District Health Administration, he does not determine business procedure but merely provides and allocates the manpower necessary to carry out the directive of the bureau director involved and to meet the work load in the clinic and home nursing activities. To illustrate this point, a district health center may have clinic activities involving the Bureaus of Tuberculosis, Social Diseases, and Child Health, which require the use of 116, 66, and 205 different types of forms respectively in addition to those of home nursing and school health, and a definite procedure for each of the bureaus so represented.

## ANALYSIS OF OPERATIONS IN DEPARTMENTAL BUREAUS

### Bureau of Permits

The Bureau of Permits is the first of six bureaus reporting to the Deputy Commissioner for Administrative Services. This position has been vacant since last year\* but the duties have been tentatively assigned to the Deputy Commissioner for Community Health Services.\*\*

### Office of the Secretary of Department

**Organization**—The Office of the Secretary of Department operates essentially the same as a bureau, also reporting to the Deputy Commissioner for Administrative Services.

The "office" or bureau consists of the following eight sub-divisions: Office of the Board of Health Clerk; Personal Service Budget Units; Departmental Absence Records; Stenographic Units; Telephone Service; Mail; Vital Records Units; and Mimeograph Division.

The Office of the Board of Health Clerk reports directly to the Secretary of the Department, while the other seven organizational units listed report to the Chief Clerk of the Office of the Secretary of the Department. As is obvious from the divisional names, this bureau is basically a service bureau to the Department of Health.

**Personnel**—All of the 46 employees can be classified as "full-time clerical."

\*ED. NOTE: Filled in September, 1951.

\*\*ED. NOTE: See Worden and Risberg Report, pp. ???.



**Scope of Activities**—This bureau is concerned with such activities as preparation of personal service budget and records of salary status; interpretation of absence regulations, etc.; liaison with the Bureau of the Budget; typing, stenography for the Chief Clerk's Office, and transcription of minutes of meetings of the Board of Health and all other departmental boards; records of the Sanitary Code amendments; and telephone, mimeographing, and similar office services.

There are approximately 25 different forms used by this bureau and the total annual quantity used is estimated at 925,000. A majority of the work in this office is of a personnel nature and usually forms part of the functions of a personnel office.

### **Bureau of Maintenance**

**Organization**—The Bureau of Maintenance is the third bureau reporting to the Deputy Commissioner for Administration Services. It is composed of three divisions—Maintenance; Purchase and Stores; and Transportation.

The bureau activities are centered in the Department of Health's main office at 125 Worth Street. This bureau has no Borough, district, or branch offices but it does have a garage located at 231 Delancey Street.

Custodians, porters, cleaners, and other helpers receive their assignments from the bureau office. When assigned to district health centers all Bureau of Maintenance employees operate under the direction of the local district health officer.

**Personnel**—Of the 221 employees in the Bureau of Maintenance, 20 may be classified as full-time clerical, 6 as part-time clerical, and 196 as non-clerical.

**Scope of Activities**—The Division of Maintenance provides maintenance and janitorial services for approximately 200 premises which house the Borough offices, district health centers, laboratory buildings, and the many various health stations and clinics required for the Department of Health activities.

The Division of Purchase and Stores arranges for the procurement of all supplies and equipment used by all operating units in the Department. It provides the stationery, printing, and other items other than personal services for which budgetary funds are provided. These "Other Than Personal Services" expenditures approximate \$1,000,000.

The Division of Transportation provides for garaging, servicing, and repairs of 19 passenger cars and 17 trucks. The transportation services are divided into three categories: passenger service; trucking service; specimen collection from 131 drug stores and health centers daily; and miscellaneous assignments.

**Procedures** — Clerical activities are concerned mostly with the Division of Purchase and Stores. For equipment purchases the Department of Purchase requires the Budget Director's approval, and if the purchase is an electrical installation, he in turn requires the approval of the Board of Water Supply, Gas and Electricity.

A folder with a sample of each form and other information of inventory on hand at a given date is maintained by the Division of Purchase and Stores, but there is no perpetual record or other accurate data available showing the real status of inventory, nor are periodic examinations made to develop the correct amount of stock (printed forms) on hand either in the store rooms of the bureau or in the field offices.



The Bureau of Maintenance itself uses about 200,000 forms annually which cover their office records, not including forms shipped to field offices.

The City's Department of Purchase is concerned with many of the functions of Purchasing, namely: securing bids from suppliers, handling comparisons of bids, planning of orders, entering into purchasing contracts, expediting deliveries, inspecting and testing materials, checking requisitions against budget balances, codes charged, securing approvals for payments, checking on price levels, maintaining of inventories and inventory records. Many of these functions are now being duplicated by the Division of Purchase and Stores in this bureau.

### **Bureau of Audits and Accounts**

**Organization**—This is the fourth bureau reporting to the Deputy Commissioner for Administrative Services. It is responsible for the accounting and auditing functions in connection with the entire Department of Health personnel, and establishes operating policies and procedures for innumerable activities throughout the Department of Health organization.

The bureau consists of two divisions—Payroll, and Audits and Accounts.

**Personnel**—All of the Bureau's personnel may be classified as full-time clerical.

**Scope of Activities**—Activities of this bureau include payroll processing and distribution; preparation of other than personal service budgets; pensions; auditing; collections; sales of biological products; appropriation accounting; and processing claims for State Aid.

**Procedures**—The largest single clerical assignment in this bureau is the preparation of the Health Department

payrolls which consumes about 33 $\frac{1}{3}$  percent of the entire clerical time of this unit. The payrolls, semi-monthly, monthly, and per diem, involve approximately 4,450 employees.

Preparation of payrolls involves a compilation of all changes completely covering adjustments composed of sick leaves, absences, rate changes, transfers, name changes, retirement, resignations, terminations, pensions, hospital insurance plans, withholding taxes, and other miscellaneous items. This information is furnished to the Office of the Comptroller, where the payroll sheets are prepared. After the latter have been checked by the Health Department's Payroll Division and the Civil Service Payroll Certification Bureau, the Office of the Comptroller prepares the payroll checks and forwards them to this bureau for distribution.

Payroll certifications are prepared by the supervisors in the various district health centers, bureaus, and divisions of the Department, and forwarded to the Office of the Chief Clerk.

The balance of clerical work in the bureau concerns the recording of accounts, preparation of invoices, claims, collection of accounts receivable, handling of funds, correspondence, audits, examinations, investigations, and a variety of the smaller type of individual duties which are more or less self-explanatory.

Little consideration was given to the compilation of cost data. Under the present system it is most difficult to determine accurate operating costs by locations or by any other type of distribution of expenses.

### **Bureau of Records and Statistics**

**Organization**—The Bureau of Records and Statistics is the fifth bureau reporting to the Deputy Commissioner for



**Administrative Services.** The operations of the bureau are divided into three divisions: Records; Statistics; and Tabulating.

The Statistics and the Tabulating Divisions are located at the bureau headquarters at 125 Worth Street, while the Records Division has branches in each Borough office of the City government. A group known as the Coding Unit is under the supervision of the Chief of the Tabulating Division.

**Personnel**—There are 187 employees in the bureau: 5 in the Office of the Director, 98 in the Records Division (excluding micro-film, photostat, and bookbinding operators), 42 in the Statistics Division, and 42 in the Tabulating Division.

**Scope of Activities**—The Records Division issues birth certificates to parents, and burial permits upon receipt of death certificates. A major activity is the search for birth, death, and marriage records and the issuance of copies of these certificates. In addition, follow-up of the results of many specific therapy studies as well as other studies requires assistance from the Division of Records in tracing patients and ascertaining the cause where death has occurred.

The division furnishes the National Office of Vital Statistics with microfilm copies of all birth, death, and fetal death certificates filed with the Department of Health. Recently a new function was assigned to the Records Division, that of validating health and vaccination certificates issued by private practitioners for use in foreign travel.

The routine work of the Statistics Division is largely concerned with the preparation of exhaustive vital statistics tables by health area and health center district. Analyses made from

these tables form a basis for health and medical policies and indicate the potential welfare load. Special statistical studies, often of long duration, are made at the request of other bureaus of the Department.

Since the salary rate for junior statisticians in the City is lower than that of the Federal government, the State, and of private industry, the personnel turnover is high. Between May 1, 1950, and May 1, 1951, the number of employees dropped from 19 to 7. New employees who complete their probationary or training period often resign, resulting in an added burden to the senior statistician.

The activity of the Tabulating Division is confined almost entirely to the tabulation on punch card equipment of data compiled by or for the Statistics Division, most of it concerned with vital statistics, particularly for the Bureaus of Tuberculosis and Social Hygiene. This work, however, does not represent complete utilization of the IBM equipment.

The Record Division's search for birth, marriage, and death certificates and the issuance of copies is carried on at the respective Borough Offices. Unless an applicant requests a photostatic copy of a birth certificate, it is prepared manually. It is estimated that of the 125,000 copies made annually, about 80,000 are handwritten. Copies of marriage and death certificates are made in photostat. When an application is approved a \$1 fee is charged, for which a handwritten receipt is given the applicant by the cashier who is attached to the Office of the Secretary. There is no cash register or cash record book in use and control is obtained only through stubs remaining in cash receipt books. The copy of the certificate is always mailed to applicant. There are about



300,000 cases of this kind annually in the five Boroughs, from which about \$235,000 was collected in fees. Some copies of certificates are issued free under certain circumstances.

Microfilming equipment, consisting of two machines, is located at the Borough of Manhattan office. In addition to reproducing birth, still birth, and death certificates, it records tuberculosis clinic case histories and records for social hygiene. Photostatic equipment is in use in each of the five Borough offices.

In the year 1950, 101,520 permits for burial were handwritten, 200,000 mailing envelopes were addressed by hand, 80,000 copies of birth certificates were completed by hand, 266,000 requisitions for photostatic copies were handwritten, and an undetermined part of 450,000 other forms were handwritten, because of the unavailability of typewriters.

While there appears to be much manual work that possibly could be done more advantageously by other means, a great part represents the insertion of limited data on printed forms. Some of the paper work is required by City ordinances, and therefore will probably remain a necessity as long as those ordinances are in force.

**Procedures — Statistics Division** — The personnel of the Statistics Division is divided into groups which are assigned to service a specific bureau or bureaus. Each such group generally is headed by a senior statistician and staffed with a complement of statisticians, junior statisticians, and clerks.

**Procedures — Tabulating Division** — The Tabulating Division prepares punch cards and makes tabulations either from activity reports originating in the district health centers and clinics or from data compiled in the Statistics Division.

In the case of vital statistics, certificates are coded by the Coding Unit and the cards are then punched by the key-punch machine operators.

The Bureau of Food and Drugs prepares a coded sheet from which cards are punched by the key-punch machine operators.

The Bureau of Sanitary Inspection mark-senses a punch card for all inspections made, from which a card is automatically punched by a reproducing punch machine.

The clinics of the Bureau of Tuberculosis and Bureau of Social Hygiene indicate action taken on a case by marking a self-coding punch card which is then used by key-punch operators to punch the card. All other bureaus report on forms which, when properly totaled by the Statistics Division, can be used by key-punch operators to punch the card.

With the exception of vital statistics, most tabulations are made monthly and a summary card is prepared which is used for the annual tabulation. However, for some types of social diseases a daily or weekly tabulation may be required.

Vital statistics are prepared monthly but no summary card is punched. Since death and birth records are frequently in error when originally filed, the annual tabulation is made from individual punch cards corrected when necessary. In the case of deaths, a weekly tabulation is made in addition to the one made monthly.

An electronic statistical tabulation machine No. 101 is a recent addition and its capabilities have not been fully explored. It is anticipated by the Tabulating Division that a substantial increase in tabulation production eventually will result and, in addition, other valuable statistical information will be obtained as a by-product.



The annual rental for equipment amounts to \$55,320.

While the key-punch machines are considered to be in constant use, the other pieces of equipment show substantial idle time as indicated below:

Type	Time Idle
Verifiers .....	40%
Tabulators .....	30%
Sorters .....	25%
Collators .....	35%
Interpreters .....	30%

One of the principal reasons why equipment is not fully utilized is the lack of adequate supervision. There appeared to be only one supervisor able to set up a machine within a reasonable length of time. This results in idle tabulators. This lack of adequate supervision is also responsible for the low operating efficiency of tabulating room personnel in general.

The division has difficulty in meeting schedules, particularly the preparation of the annual report on vital statistics. A night shift, working from 5:00 P.M. to 11:00 P.M., has been installed which has increased production to some extent, but this measure returns limited benefits because of lack of proper personnel. Cards punched amount to 75,000 per week, but this figure cannot be accepted blindly as a production gauge as some cards require very few columns whereas others take up all columns. The division has an active file of 2,000,000 punch cards of which about one-half are related to vital statistics.

The use of mark-sense cards has been introduced in some bureaus, but with the exception of Sanitary Engineering, appears to have met with little success. This is probably due to the inadequacy of the training program.

In addition to the coding of 250,000 birth and death certificates, the Coding Division also checks the tabulation

sheets for errors in classifications before they are sent to the Statistics Division.

## Bureau of Personnel and the Budget

**Organization**—This is the sixth bureau reporting to the Deputy Commissioner for Administrative Services. It is responsible for personnel problems of approximately 4,450 employees. The bureau is divided into three divisions (in this bureau referred to as sections): Appointment and Record Section; Clerical Placement Section; and Training Section.

**Personnel**—All 13 employees can be considered as full-time clerical.

**Scope of Activities**—In addition to the personnel problems of the present staff, the activities of the bureau include: recruiting, interviewing, appointments, investigations, and training.

**Procedures**—Requisitions are sent to the Civil Service Commission for lists of eligibles to fill vacancies. Upon receipt of a list, "Call" letters are sent to those listed and appointments are arranged in order of standing on the register. The candidate is interviewed by this bureau and by the bureau wherein the vacancy exists.

Other duties include: pension information; distribution of service rating forms; check to insure compliance with statute regulations and policies; and advice to department heads concerning maximum utilization of clerical skills.

About 28 different mimeographed and printed forms including cards are used by this bureau for records and other purposes. The total annual quantity of forms used amounts to approximately 60,000.

## Bureau of Child Health

**Organization**—The Bureau of Child Health is the first of three bureaus re-



porting to the Assistant Commissioner for Maternal and Child Health Services. It is directed by a physician and consists of four divisions: Maternity and Newborn; Infant and Pre-school; Physically Handicapped Children; and Day Care and Foster Homes.

This bureau provides for the operation of 78 child health stations, 22 eye clinics, 5 cardiac clinics and 4 prenatal clinics. A number of the health stations and clinics are located in the district health centers, but all of them are under the supervision of a district health officer.

The mother-child cycle comes within range of interest of the bureau, which provides prenatal care, obstetrical services, postnatal care, health supervision of the well baby and of the child until he enters school, health protection of children when cared for away from their own homes, and treatment and management of illness and physical handicaps in children of all ages.

**Personnel**—The bureau has a staff of 56, including 7 nurses, 4 social workers, and 5 physicians. In addition to the headquarters staffs the clinics and child health stations have: 39 clerks, 24 public health assistants, 110 nurses and 150 per-session physicians.

**Scope of Activities**—During 1950 the 109 clinics and child health stations of the Bureau of Child Health had an attendance of 437,747, of which 367,432 were at child health stations, 55,566 were at eye clinics, 7,665 were at prenatal clinics, and 7,084 were at cardiac clinics.

**General Comments**—The files in clinics and health stations are usually maintained by nurses and public health assistants. In 1950 the operation of the bureau and its clinics and child health stations required the use of about

1,600,000 forms consisting of about 40 different types of printed forms and about 165 different types of mimeographed forms. This does not include some 30 different pamphlets containing information on the care of children which are distributed to parents. The processing of these forms consists mainly of the manual transcription and recording of data on the part of the clerks, public health assistants, and nurses.

### Bureau of Dentistry

**Organization**—The Bureau of Dentistry is the second of three bureaus reporting to the Assistant Commissioner for Maternal and Child Health Services. During 1950 this bureau operated 18 full-time clinics in district health centers, 109 part-time clinics in schools, and 3 part-time clinics in other locations.

**Personnel**—The bureau has a total personnel of 321, including 153 dentists, 27 dental assistants, and 126 dental hygienists.

**Scope of Activity**—The bureau maintains complete up-to-date files on *all* orthodontia cases, prepares schedules covering clinic sessions in schools and health centers, including assignment of personnel, and schedules lectures for in-service training of dentists, dental assistants and hygienists, in addition to routine personnel, budgetary, inventory, purchase, and other miscellaneous duties.

**Procedures**—The clerical procedures center principally on the maintenance of three major records, namely: maintenance of orthodontia case records, personnel records, and inventory of furniture, fixtures, and equipment. Approximately 250,000 printed and mimeographed forms were used during the last fiscal year.



## Bureau of School Health

**Organization**—This is the third of three bureaus reporting to the Assistant Commissioner for Maternal and Child Health Services. The Central Bureau Office at 125 Worth Street, the 1,140 clinics established in all elementary and vocational schools and 26 academic high schools are all under the direct supervision of district health officers. In addition to these school clinics, there are five connected with the district health center offices. Also, there is one clinic in Brooklyn which is not located at either a school or district health center office. Children leaving school for employment must pass a medical examination in order to secure their working papers.

All medical examinations of pupils are conducted at the school, where all files of medical case histories are retained.

**Personnel** — The Bureau of School Health totals approximately 468, including 225 public health nurses servicing clinics, and 234 supervising and per-session physicians.

**Scope of Activities** — There were 970,241 children registered in the public, parochial, elementary, and junior high schools in 1950 subject to Bureau of School Health jurisdiction. This was an increase of 103,675 over that of the previous year. Increases in school population are expected to continue for the next several years. It is generally considered that a minimum of two routine health examinations should be given to pupils during elementary school.

Symptoms revealed at time of admission examination or those subsequently discovered are followed-up by the school physician or nurse. During the year 1950, 660,304 visits of pupils were made to the medical rooms for such follow-up examinations.

The teacher plays an important part in this school health program. She has been trained to administer first aid, thus reducing the number of cases referred to the medical room for treatment by physician or nurse. The teacher has also been trained to recognize symptoms of illness of pupils in her classroom and to refer them for medical inspection.

**Procedures**—Required in the processing of the school health programs in 1950 by the bureau were about 5,626,000 forms consisting of 33 different types of printed forms and about 30 different types of mimeographed forms. This amounted to about 5.8 forms per pupil registered in the schools. This does not include any records in connection with home visits.

The clerical work that results from the processing of these forms consists mostly of the manual transcription and recording of data. Since there are no clerks or public health assistants assigned to the school health clinics, this clerical work must be done entirely by the nurses and per-session physicians.

Probably about one-half of a nurse's time in the school health clinic is devoted to clerical work. This represents a substantial diversion of a nurse's time from duties for which she has been trained. This situation exists in spite of the fact that several times during the last few years certain health activities of the bureau were curtailed because of the lack of nursing personnel.

Each school maintains its own file of medical case histories of the pupils now in attendance. They are maintained by the nurse and represent another clerical function. When a pupil moves from the elementary school to a vocational or academic high school, his case history file is transferred to the school of his attendance. There are about 1,000,000



medical case histories in the school files. After a pupil graduates or leaves school, his case history folder is placed in storage and kept indefinitely. This means that every 12 years about 1,000,000 case history folders are placed in storage.

The nurse's monthly report is forwarded to the Bureau of Records and Statistics where information is prepared for punch-card operations and tabulations are made.

**Comment**—It is interesting to note that no clerks or public health assistants are assigned or attached to school clinic operations. Nor is there any evidence available to indicate that the nurses receive any assistance from the members of the school faculties in the purely clerical functions involved in medical examinations.

An exception to this statement is the use of several per diem clerks during the peak-load periods in the early summer in the working paper clinics.

The distribution and coverage by nurses of the school clinics is supervised by the supervisor of nurses for the district in which the schools are located. The supervision of nurses is under the direction of the health officer or administrator of the district health center. These nurses, in addition to servicing the school clinics, must carry on their other general nursing activities such as home visits or assignment to other types of clinics.

In addition to these physical examinations, there were 1,294,099 cases where some kind of medical attention was given, such as first aid, inspection to discover contagious diseases, or other minor medical assistance.

## **Bureau of Public Health Nursing**

**Organization**—The Bureau of Public Health Nursing is the first of four bu-

reaus reporting to the Deputy Commissioner for Community Health Services. Currently about 900 nurses are provided by this bureau for varied district health administration activities.

In each clinic there is a supervisor of nurses who operates under the direction of the district supervisor of public health nursing. The district supervisor of nurses comes under the direction of the district health officer in charge of the district health center.

Since the need for nursing service fluctuates widely from district to district the staff must be flexible so that nurses can be easily transferred from one district to another as the occasion arises. When this occurs, the nurse is under the jurisdiction of the district supervisor for the district in which she is working.

To lift some of the clerical load from the nurses in the clinics, the position of public health assistant has been established. These clerks have sufficient training in nursing to enable them to record and transcribe medical data. They are attached to the Bureau of Public Health Nursing and are under the direction of the supervisor of nurses.

**Personnel**—The personnel attached to the Bureau of Public Health amounts to 1,049, including 861 public health nurses, 83 public health assistants, 58 supervisors PHN, 19 district supervisors PHN, and 12 consultants.

In addition to the above there are 86 clerical positions assigned to clinics, of which 71 are now represented as vacancies.

**Scope of Activities**—The bureau is charged with the responsibility for the direction and administration of all its nursing activities. These activities can be divided into three main categories: service in clinics, in the schools, and in the homes. They include teaching the



need for medical supervision and the principles of health conservation and disease prevention; teaching prophylactic measures; establishing quarantine procedures when indicated and advising proper care for persons who have come in contact with those suffering from infectious disease; assisting in the discovery of those in need of medical care and health supervision and helping them to secure such care; and working with other health and social workers to secure co-ordinated family adjustments and services to promote individual and family health.

**Procedures**—There is probably no bureau in the Department of Health that has to contend with so many different types of forms as does the Bureau of Public Health Nursing. This is particularly true of the branch of nursing actively connected with home and related field visits. In this instance, the nursing staff must “process” cases which fall under the medical supervision of many different bureaus and their divisions, each having its own type of form and procedure.

For example, suppose that a visiting nurse made six calls in one day, one each on diphtheria, typhoid, tuberculosis, polio, social disease, and foster home cases. She would have to prepare 26 different basic forms and in addition might have to prepare referral forms as indicated by the patient's condition, contacts, environment, or other factors. To process these six cases about 50 steps would be necessary on the part of the district office nurse and visiting nurse.

There are approximately 16 different types of cases that a visiting nurse is obliged to service, and if, for example, she made the 16 different types of visits in four days, she would be required to handle almost 70 different types of

forms. Many of these forms must be completed at the place of visit and then returned by her to the nursing office or dispatched by mail to another agency of the Department of Health. In some instances the required information is difficult to obtain, especially from those of foreign birth whose familiarity with our language is limited.

When these completed forms are returned to the nursing office, they are reviewed by a nurse in charge and then referred to the agency having jurisdiction over that type of case. These illustrations, hypothetical, of course, indicate the tremendous amount of clerical work that is necessary on the part of the nursing service, and make the “35 percent of nursing time devoted to clerical work” look like a conservative estimate.

The seriousness of the situation becomes apparent when it is realized how much nursing care is required in the City and how few nurses there are available in the hospitals, clinics, and sanatoriums. To a certain extent this situation has been recognized by the creation of a staff of public health assistants. However, this move is not necessarily the answer, as the problem can be solved only through a careful examination of the cause responsible for the tremendous amount of paper work.

### **Bureau of District Health Administration**

**Organization**—The Bureau of District Health Administration is the second bureau reporting to the Deputy Commissioner for Community Health Services, and its director is responsible for the administration of all district health centers. Each of the district health centers is in turn under the direction of a health officer.



There are 20 health districts in the City. However, because of vacancies existing in the positions of district health officers, there are only 16 health officers on active duty. The district health officers are charged with responsibility for the administrative supervision of the physicians, public health nurses, public health assistants, and technicians attached to health district operations. This supervision, however, does not apply to the professional procedures of physicians, nurses, or technicians, which are established by the bureaus responsible for the creation of medical and nursing policies.

Clinic operations form the major portion of district health activities, and the management of each has an important bearing on the efficiency of service to the public. Each clinic is under the immediate supervision of the nurse-in-charge, so far as nurses, public health assistants, and clerks are concerned. The nurse reports directly to the district supervisor of nurses who in turn reports to the district health officer.

The physicians in the clinics are under the direction of a physician-in-charge. This physician is responsible to the district health officer for administrative procedures and to the appropriate bureau director for professional methods.

**Personnel**—The personnel attached to the health districts and bureau officer, and over which the District Health Administration has complete supervision, totals 390, including 16 district health officers, 6 associate health officers, 2 health officers in training, and 4 social investigators. There are 264 clerks, and 97 other stenographic and miscellaneous personnel.

**Scope of Activities**—Activities of the bureau include determination of the objectives, policies, procedures, and qualifications of administrative personnel in the District Health Program; supervision over programs in health districts; recommendations to the Commissioner for assignment of health officers and of clerical staff to districts; maintenance of consultation service, including any needed official clearance with bureau directors and any other official or voluntary agencies on matters involving the activities of District Health Administration; development and maintenance of a Manual of District Health Administration; and review in cases of serious disagreement between a bureau director and a district health officer.

**Procedures**—There are many forms originating in this bureau, but the large volume of forms in use in many of the other bureaus and routed in process through this bureau represents a heavy clerical load.

**Special Information**—Since the district health officer, clinics, and health stations are spread over a wide area, communication and transportation facilities to bring them in close contact with bureau headquarters and with each other are necessary. District health officers feel that much can be done to facilitate the interchange of messages, orders, documents, and supplies.

## **Bureau of Nutrition**

**Organization** — This bureau is the third reporting to the Deputy Commissioner for Community Health Services.

The Division of Nutrition was given bureau status in January, 1949, at which time a physician was appointed as director. The program then developed provided for an increase in educational activities, additional nutrition clinics,



and a program of prenatal nutrition. The bureau is divided into two divisions: Clinics Division (under the director), and Nutrition Division (supervising nutritionist in charge).

**Personnel**—The personnel totals 57, including 16 nutritionists and 31 clinic physicians.

**Scope of Activities**—In addition to the operation of five clinics, the program includes a survey covering the nutritional status of selected population groups to determine what elements compose nutritional deficiencies. The bureau also acts as consultant to professional elements, not only in the Health Department, but to other City departments and private organizations, and individuals.

**Procedures**—The bureau prepares and maintains records of cases coming to clinics, including medical history and other information in this connection, as well as other records covering personnel, consultation service rendered to other bureaus' personnel, and correspondence files, including stenographic notes of various meetings. Monthly reports of activities are prepared and forwarded to headquarters.

### **Bureau of Public Health Education**

**Organization**—This is the fourth bureau reporting to the Deputy Commissioner for Community Health Services. It has three divisions: Editorial (with units for bulletins and reports, scripts and general literature); Production and Distribution (with library, photographic, art, exhibit, radio, TV, and printing units); and Field Services (including units for inquiries, training, and general and special services).

**Personnel**—The personnel totals 51, including 19 health educators and 2 supervising senior health educators.

**Scope of Activities** — This bureau's activities consist of widely distributing information through publications, posters, exhibits, radio, television, house organs, and other media.

**Procedures** — The bureau maintains records on all distribution of printed matter, films, and exhibitions, as well as routine personnel, inventory, and correspondence matters. Monthly reports of operations are prepared and, after review by the director, are sent to the Office of the Commissioner.

### **Bureau of Preventable Diseases**

**Organization**—The Bureau of Preventable Diseases is the first of five bureaus reporting to the Assistant Commissioner for Preventable Disease and Adult Hygiene Services. The bureau is composed of four divisions: Contagious Disease; Epidemiology; Maternity and Newborn Services; and Veterinary Medicine.

The Division of Contagious Diseases is supervised by four Borough chiefs, one located in each of the Borough offices except Richmond. The other three divisions are headed by technicians located in the bureau office at 125 Worth Street.

**Personnel**—The personnel totals 69, including 19 clerical workers, the remainder being full and part-time professional staff.

**Scope of Activities**—The Bureau of Preventable Diseases is concerned with the control and prevention of acute communicable diseases, exclusive of tuberculosis and venereal diseases. The latter are provided for in separate bureaus. Activities include the receipt and filing of reports from private physicians, hospitals and clinics; the formulation of procedures for the isolation of persons affected with communicable con-



ditions and for the quarantine of contacts to those patients; epidemiological investigation and study of certain diseases and of all outbreaks of disease occurring in the City of New York; operation of clinics for the administration of anti-rabic vaccine to persons bitten by animals and for the administration of other serums and vaccines for prophylaxis of certain diseases; and preparation of reports, giving the incidence and prevalence of communicable disease in the City (exclusive of tuberculosis and venereal diseases).

**Procedures**—The procedures involve the examination, laboratory tests, treatment, and follow-up methods in connection with cases of typhoid fever, para-typhoid fever, investigation of animal bites and diseases, and other communicable diseases, exclusive of tuberculosis and venereal diseases.

**Special Information**—The clinical activities of the bureau are confined largely to the Anti-Rabic Division which in 1950 consumed 1,791 nurse-hours. In the follow-up of cases in the home, about 3,900 nurse-hours were used. Many of the functions of a semi-nursing nature have been assumed by public health assistants who in 1950 spent 4,139 hours in that activity. There are no clerks attached to the clinics as the public health assistants handle the clerical tasks.

In the year 1950, the bureau used about 354,000 printed and 10,000 mimeographed forms, consisting of about 100 different types.

## Bureau of Tuberculosis

**Organization**—The Bureau of Tuberculosis is the second reporting to the Assistant Commissioner for Preventable Disease and Adult Hygiene Services.

**Personnel**—The personnel attached to the bureau totals 359, including 78 per-session physicians, 33 full-time physicians, 60 public health nurses and 16 public health assistants in clinics, and 43 X-ray technicians. There are 122 clerks, stenographers, and typists; of these, the complement of 47 clerks attached to the bureau offices is greater than that usually found in the other bureau headquarters of the Department. This is necessary because of the operation of the chest clinic and the central roster file.

**Scope of Activities**—The clinics provide diagnostic, consultation, BCG vaccination, and chest X-ray service. The diagnostic service consists of medical, fluoroscopic and X-ray examinations. Contacts are maintained with all known cases of tuberculosis. A consultation service is maintained for physicians who desire diagnoses for patients who cannot afford a private physician's fee. Mass X-ray service was expanded to include two district health centers, and projects utilizing mobile X-ray equipment were undertaken.

The bureau maintains close relationship with other agencies of the City government, particularly the Departments of Welfare and Hospitals.

**Procedures**—An important function in the *District Health Center Office* is the maintenance of the active file of cases under supervision in the district. All these cases are listed on the roster of Central Bureau Office at 125 Worth Street.

Maintenance of the case files, changes in patient status, new cases, etc., involve 9 forms handled in volume. Other forms, about five in number, are used sporadically in the exchange of information and are of no consequence from a standpoint of clerical effort.



The principal clerical function of the *Central Bureau Office* also is the maintenance of files and records. The central roster of cases contains about 110,000 names, filed under the Soundex System. Many of the discontinued case records eventually are microfilmed.

The Central Bureau Office conducts a central chest clinic and mass X-ray unit, with forms and procedures similar to those of the chest clinics.

Under present procedure, it is necessary that a substantial part of the clerical work be done by nurses, amounting to about 35 percent of the nurse's time. This naturally reduces the efficiency of the nursing service.

The statistical work for the bureau is handled through the Division of Statistics of the Bureau of Records and Statistics, which has assigned a statistician to compile and otherwise prepare the data for summarization by the tabulating unit. When a punch card is checked which indicates a change in diagnosis and is received from the district health center office, such change is noted on the roster card and then forwarded to the tabulating unit for eventual tabulation.

In the processing of a case in the chest clinics, 9 basic forms are used, covering appointment and work-load records which usually are maintained by the specific individuals concerned. Some 32 minor forms are used in connection with referral, follow-up, and giving or seeking information. Of the 32 forms not considered basic to routine case processing, 20 are handled by nurses. While it is true that some of the information can be supplied only by nurses, much is of a purely clerical nature that could be handled by others.

### **Bureau of Social Hygiene**

**Organization**—This is the third bu-

reau reporting to the Assistant Commissioner for Preventable Disease and Adult Hygienic Services. A large clerical staff is maintained at the bureau headquarters at 125 Worth Street for processing the many records used in connection with the clinical activities.

Special social hygiene clinics are located in the Women's Court, the Women's House of Detention and the Euphrasian Residence. These clinics report to the bureau director.

**Personnel**—The personnel, totaling 300, includes 124 per-session clinic physicians, 5 medical consultants, 68 clinic public health nurses, 15 clinic public health assistants, 2 bacteriologists, and 13 junior bacteriologists. There are 62 clerks, stenographers, typists, orderlies, clinic clerks, etc.

**Scope of Activities**—The activities of the bureau are centered mainly in three categories—diagnosis and treatment of social diseases, epidemiology (case finding), and education. The diagnosis and treatment of social disease is lodged in the 74 clinics in the City, of which 20 are conducted by the Department of Health.

All social hygiene clinics conducted in the district health centers are available to the public and to private physicians for medical examinations and laboratory tests required for diagnosis. Reports of examination and laboratory tests are sent to private physicians for patients referred to them for consultation, and the patients are instructed to return to the physicians for further advice and care. Other patients found infected are referred to private physicians if they can afford treatment or admitted to Health Department or hospital clinics for necessary care.

**Clinic Activity**—During the year 1950, the 20 clinics of the Bureau of Social



Hygiene gave medical advice at the clinics to 91,278 persons. The operation of the bureau and its 20 clinics required, in 1950, the use of about 540,000 forms of 66 different types. As is the case in other bureaus, the clerical work in general consists of the manual recording and transcribing of data, and much of it has to be done by nurses. The fact that nurses spent at least an estimated 35 percent of their time on purely clerical work is not reflected in the bureau's work load figures. In 5 of the 17 clinics located in the district health centers, there is no clerk on duty. This means that the nurse must share with the public health assistant the clerical duties of the clinic, resulting in a substantial diversion of a nurse's attention and reduction in her effectiveness.

**Central Bureau Office**—The principal activities of this central bureau office involving clerical work include the maintenance of the central registry file on cases and case reports; investigations and reports on "contact" cases; compilation of data for eventual use by the Statistical Division; preparation of information for use in the educational program; and maintenance of adequate supplies, instruments, etc., at the clinics.

**Procedures**—Processing a case through a large clinic requires 31 steps, beginning with the first visit of the patient to the clinic until he is registered and has been classified as a positive case. In the small clinics, where certain duties are combined for a nurse, physician or public health assistant, 26 steps are required.

Every patient admitted to a social hygiene clinic is interrogated at several points by clerical personnel for names of "contacts." The names and addresses so obtained are forwarded to the Central Registry of the bureau. When a

complete name and address is obtained, follow-up of "contacts" is initiated by sending a field worker to the given address. When the bureau has only an incomplete name and address, the case is assigned to a field worker for investigation. When only an incomplete address is known or if it is that of a public place, the case is referred to the Police Department.

The other important program carried on at the central bureau is that of education of public social hygiene, through moving pictures, radio broadcasts, posters, and lectures. This is closely integrated with the Bureau of Public Health Education.

### **Bureau of Laboratories Diagnostic Division**

**Organization**—This is the fourth bureau reporting to the Assistant Commissioner for Preventable Disease and Adult Hygiene Services. Its functions are divided between a Diagnostic Division and a Manufacturing Division. The bureau is under the immediate supervision of a director with an assistant director heading each of the two divisions, and reporting to him.

All activities of the Diagnostic Division are concentrated at 125 Worth Street. There are no Borough, branch or district offices. However, laboratories have been established in some of the district health centers: one cancer, one cardiac, one diagnostic clinic, one microchemical, and two tropical disease laboratories. Each laboratory has a supervisor who reports to the director of the bureau.

Of the 206 employees now on duty in the division, 52 percent are technicians, 28 percent are laboratory cleaners or laborers, and 20 percent are clerical workers.



**Scope of Activities**—The activities of the Bureau of Laboratories include the application of the biological, chemical, physical, and allied sciences to the prevention, diagnosis, and treatment of disease; scientific research relating to improved methods in diagnosis and treatment of disease; the sanitary control of environment; the manufacture of biological products; assistance in laboratory work necessary to help various government enforcement agencies; and the supplementing of the teaching of public health laboratory methods in institutions of higher learning. Contact with physicians and hospitals in the City is maintained through about 380 Department of Health Stations located in selected drug stores, hospitals, and health centers.

**Procedures**—The *General Office* is responsible for the culture and antitoxin stations located in drug stores and throughout the City; ordering of all supplies and equipment; and personnel records.

The *Processing Office* is responsible for handling of all telephone calls, and the filing of all test reports which amount to about 1,000,000 pieces annually.

The *Mailing and Typing Unit* is responsible for the preparation and mailing of all reports to physicians, clinics, and others; the filing of all serology reports; and the filing of clinic sheets which amount to about 650,000 annually.

The *Photostating Unit* is responsible for the reproduction of all History-Report forms, the original of which is returned to physician and the copy retained in division files.

The introduction of the photostat machine has substantially reduced the amount of clerical work heretofore

necessary in the reproducing of report forms. This machine has replaced ten typists and one clerk at an annual saving of about \$20,000 per year. A Roberts Automatic Recorder which has been approved for installation is to be used for numbering, dating, and signature recording in identifying specimens sent to the laboratory for diagnosis. It should materially reduce clerical time now necessitated by manual transcribing.

The activities of the Diagnostic Division require a considerable amount of paper work, as indicated by the fact that 4,384,000 printed and mimeographed forms were used in 1950. While a substantial portion of the paper work is handled by the staff of 38 clerical workers, a considerable amount is done by the technicians in manually inserting test data on forms.

## Bureau of Adult Hygiene

**Organization**—The Bureau of Adult Hygiene is the fifth bureau reporting to the Assistant Commissioner for Preventable Disease and Adult Hygiene Services. It consists of the Cancer, Diagnostic, and the Mental Hygiene Divisions.

**Personnel**—There are 38 regular bureau employees; and 104 assigned to clinic operations, including 89 per-session physicians, 4 psychiatrists, 7 public health nurses, and 8 public health assistants.

## Bureau of Food and Drugs

**Organization**—The Bureau of Food and Drugs is the first of three bureaus reporting to the Assistant Commissioner for Environmental Sanitation Services. Its operations are divided into six main divisions, namely: Retail; Wholesale; Milk; Drug; Shellfish; and Hospitals.



In addition to these main divisions, there are a Food Poisoning Unit, Equipment Unit, Photographic Unit, and attached to the Retail Division a Self-Inspection Unit, Dishwashing-Plans Unit, and a Rodent Control Unit. There are no district, Borough, or branch offices.

**Personnel**—The personnel totals 304, including 189 inspectors, and 38 clerks, stenographers, and typists. In addition there are two inspectors attached to the office of the Assistant Commissioner.

**Scope of Activities**—The principal activity of the bureau is the inspection of food, drugs, and the facilities used in their manufacture and distribution, to enforce Sanitary Code regulations.

Routine inspections consist of periodic visits to food and drug establishments to observe how well they are adhering to Sanitary Code Regulations. Nonroutine inspections are made in response to specific complaints, or in connection with applications for permits.

The nonroutine type of inspection receives priority and represents the principal activity of the Retail Division. The area covered by the bureau is divided into inspection districts for each of the main divisions. Inspectors assigned to a division handle both routine and nonroutine cases. The inspectors are trained to handle cases for divisions other than those to which they are assigned, and in this manner the inspection staff is geared to meet emergency conditions that may develop in one or more of the divisions.

The staff of inspectors is supervised by 39 field supervisors which amounts to one supervisor for each 5 inspectors. The field supervisors make field checks on inspectors' reports and enter the result on a work evaluation report. The

field supervisors average 18 checks per inspector per year. Inspectors are rotated every 6 weeks from district to district within their division.

Since inspection activities involve many different types of situations within a division, it generally has been considered necessary to have a form for each of these situations. For example, inspection activities in the Retail and Wholesale Divisions, which comprised about 67 percent of all inspections made by the main division in 1950, required the use of 30 different types of printed forms and 35 different types of mimeographed forms or a total of 65. Not all of these forms are used to the same degree of frequency; they are divided about evenly between field and office work.

For the bureau as a whole about 465,000 printed and 45,000 mimeographed forms of 116 different types were used in 1950. The office processing of these forms required the bulk of the time of the 29 clerical workers in the bureau office. Consideration was given to the use of mark-sense punch cards by the inspection staff, but the idea was discarded as "unworkable."

Daily activities of the inspection staff in connection with sample taking and condemnation action are coded by clerks in the bureau office and forwarded periodically to the Tabulating Division for punch card preparation. The inspector's daily work report is also sent to the Tabulating Division from which punch cards are prepared and data eventually tabulated.

## **Bureau of Sanitary Inspection and Bureau of Sanitary Engineering**

**Organization**—The Bureau of Sanitary Engineering is in the process of reorganization. When it is completed, two bureaus will emerge—Bureau of Sani-



Sanitary Inspection and Bureau of Sanitary Engineering. The new Bureau of Sanitary Engineering will consist of the Division of Water Control and the Division of Rodent Control.

The newly created Bureau of Sanitary Inspection will consist of the Division of Borough Inspection, Division of Planning and Special Activities, and a newly formed Division of Gas Poisoning Control.

These bureaus will report to the Assistant Commissioner for Environmental Sanitation Services.

This Bureau of Sanitary Inspection is under the immediate supervision of a director to whom the three division heads report (Division of Borough Inspection, Division of Planning and Special Activities, and Division of Gas Poisoning Control).

The Division of Borough Inspection is subdivided into Borough offices, one for each of the five Boroughs of the City. These Borough units are under the supervision of a Borough chief, and are located in district health center offices of the respective Boroughs, with the exception of the Manhattan Borough office which is located in the bureau offices at 125 Worth Street. A staff of inspectors is attached to each of these Borough offices.

The Division of Gas Poisoning Control is located at bureau headquarters, and the staff of inspectors attached to this division covers the City from this location.

The Division of Planning and Special Activities, also located at the bureau office, is responsible for forming policy and establishing operating procedures for the bureau as a whole. In addition, it handles all special activities of sanitary inspection for which a staff of inspectors is assigned.

**Personnel**—The personnel totals 136, including 110 inspectors, and 17 clerks, stenographers, and typists.

**Scope of Activities**—Housing inspections are made to determine the degree that housing in the City is substandard in sanitation. Investigations are made in response to complaints filed by tenants or through a plan of routine checking.

Complaints of lack of heat, and the necessary inspections, form a substantial part of the division's work load. During the period of January to April, it is frequently necessary to request inspection assistance from the staff of the Bureau of Food and Drugs.

Carbon monoxide poisoning caused by gas refrigeration equipment has become prevalent in the City in recent years, and has resulted in a sharp increase in the demand for inspection service.

Although a separate Division of Rodent Control has been created under the reorganized Bureau of Sanitary Engineering, the Bureau of Sanitary Inspection retains an inspection service in the field.

Close inspection of sanitary conditions in the schools and summer camps is maintained, particularly over the latter during the periods of high poliomyelitis incidence. Because of the high incidence of this disease during the past few years, the inspection staff devotes considerable attention to unsanitary conditions, particularly in connection with fly breeding, insect and rodent infestation, exposed foodstuffs, uncovered garbage cans, overflowing cesspools, and defective sewers.

Other responsibilities include ragweed control, mosquito control, air pollution control, and inspection of residential self-service laundries. The use of certain materials and the operation of specific types of businesses come



under Sanitary Code Regulations for which either a permit or certificate must be obtained.

During the year 1950, 120,170 inspections were made by the Bureau of Sanitary Engineering (before reorganization). Of these, 46,229 or 38 percent were in connection with heat, plumbing, and housing.

**Procedures**—Because of the variety of types of inspection that are made, requiring the use of many different kinds of forms, uniformity in procedure is difficult to attain. However, since inspections resulting from complaints form a substantial part of the inspection work load, the procedure followed in this instance is the most common; it consists of the use of three basic forms plus a punch card for mark-sensing. Correspondence with violators is done by means of form letters.

The use of mark-sensed punch cards by inspectors was inaugurated to obtain statistical data without laborious clerical work. These punch cards can be

mark-sensed in the field or at the office when the inspectors return.

In addition, inspection summary forms are designed to code the disposition of a case when it is finally made. This coding enables the Tabulating Division to key-punch the card directly from the summary forms, thus eliminating the necessity of coding in the Tabulating Division. Unfortunately, the Tabulating Division does not have the capacity available now to punch and tabulate the information that could be submitted on the coded summary forms.

It is important to note that this bureau has successfully used the mark-sensing feature of punch card tabulation when other attempted installations have been characterized as failures.

Most types of inspection require a different set of forms, and in some instances the inspector's report is telephoned in by him, and the transcription made in the office. During the year 1950, about 960,000 printed and mimeographed forms were used, consisting of about 38 different types.

## RECOMMENDATIONS

### Introduction

In the recommendations which follow "Organization" is first in presentation and first in importance.

Recommendations for significant revisions in procedures also are included. Those revisions are concerned with high volume transactions of the Department that are not likely to change substantially under the proposed revision of organization.

All present procedures were studied, as is revealed in the previous section of this Report, but we have not attempted to make recommendations for changes in many relatively minor clerical procedures.

### Organization

The present organization segregates all Department of Health activities into five services with a deputy commissioner or assistant commissioner in charge of each service. Each of the five deputy or assistant commissioners reports directly to the Commissioner.

Each of the five services is composed of from 3 to 6 bureaus and each of the 21 bureaus is in charge of a director. Most of the bureaus are composed of divisions or other smaller organizational units. The operations of the bureaus range from highly centralized to widely decentralized functions in varying degrees.



The Office of the Secretary, the Bureau of Personnel, and other business functions are centralized to a marked extent. The Bureau of Sanitary Inspection, the Bureau of Preventable Diseases, and the Bureau of Records and Statistics are decentralized to the extent of having Borough offices. The Bureaus of District Health Administration and Public Health Nursing are further decentralized to the extent of working in various health centers, health stations, and clinics.

There are a number of bureaus which currently are centralized to a certain degree but operate through numerous district health centers, health stations, and clinics. They are the Bureaus of Child Health, Dentistry, School Health, Tuberculosis, and Social Hygiene.

The enormous amount of clerical work necessitated by the activities of these bureaus is supervised by medical doctors. The district health officers may be subject to "orders" from at least a dozen different sources. This is due to the traditions, background, and other factors which have influenced the development of the Health Department organization over a long period of years.

On January 1, 1948, Past Commissioner Mustard issued Executive Order No. 429 which covers the responsibilities and authorities of district health officers and the Office of District Health Administration. This Executive Order provides for the issuance of "administrative directions" as contrasted with "technical instructions" and for the past three and one-half years there are cumulative evidences of conscientious differences of opinion as to whether any given order is an "administrative direction" or a "technical instruction." These differences of opinion have almost

nullified the achievement of the objectives of the Executive Order.

One other factor which seriously affected the relationship between the bureaus was the fact that the Director of District Health Administration was on the same organization level as many of the bureaus which had to be co-ordinated. With Civil Service protocol so firmly established throughout the City and the Department, the possibility of one bureau director guiding, supervising or co-ordinating a group of other bureau directors was most unrealistic.

The objective of the organization of the Department of Health should be the co-ordination of technical or medical scientific skills with the skills of administration.

### Plan of Organization

Our proposed plan is based on a concept of a high degree of decentralization in the execution of the program of the Health Department—particularly where the representatives of the Department actually come in contact with the public they serve.

It is at this point where the most radical deviation from present practice occurs, for it is here that decentralization is accomplished. It is our recommendation that the concept of the district health center be revised. Such a revision would require that:

- (1) The health district would comprise a geographical area and the health officer would be the chief executive in charge of all health centers, clinics, and other Health Department activities in that area. As a result, the health officer really would be responsible for the quality and economy of service rendered to the area.

- (2) The officer would become and remain familiar with the problems and needs of the area.



(3) The health officer would keep his superior properly informed on all activities in the area, and through him transmit to other top executives such information as they need or to which they are entitled. Conversely, the officer would be informed of all special activities or projects conducted by other agencies in his area that do not come within the immediate or routine province of his responsibilities.

(4) Practically all medical bureaus would become, essentially, planning and research organizations, and personnel requirements in these bureaus should be streamlined so that only that number of people required for research and planning are retained in the bureau. Other existing personnel, who are essentially occupied in the execution of the functions of the bureau, should be reassigned to the geographical areas defined above the health district.

The plan is based on the time-tested concept of a line and staff organization. Such a concept means simply that certain people are assigned the responsibilities of planning and research, and others the responsibilities of executing the plans derived from research. The concept as here implemented has the following advantages: (1) no legal problems, such as changes in the City Charter, are created; (2) a clear distinction is made between business and medical technology; (3) a clear distinction is made between planning and execution.

In conformance with New York City practice, the Department would be headed by a Commissioner. All activities in the Department would be divided into Business Administration Services and Medical and Health Services with a deputy commissioner in charge of each service.

The business bureaus such as Permits, Office of Secretary, Maintenance, Audits

and Accounts, Tabulating and Statistics, and Personnel would report to the Deputy Commissioner for Business Administration.

Three assistant commissioners would report to the Deputy Commissioner for Medical and Health Services. They would be: (1) Assistant Commissioner, Planning and Research; (2) Assistant Commissioner, Environmental Sanitation; and (3) Assistant Commissioner, District Health Administration.

The following bureaus would report to the Assistant Commissioner for Planning and Research: (a) Child Health; (b) Dentistry; (c) School Health; (d) Public Health Nursing; (e) Nutrition; (f) Public Health Education; (g) Preventable Diseases; (h) Tuberculosis; (i) Social Hygiene; (j) Laboratories; and (k) Adult Hygiene.

The following bureaus would report to the Assistant Commissioner for Environmental Sanitation: (a) Food and Drugs; (b) Sanitary Inspection; and (c) Sanitary Engineering.

All district health centers, clinics, and health stations in a given geographical area would be co-ordinated into a health district under the direct supervision of a health officer. He, in turn, would be under the direct supervision of the Assistant Commissioner for District Health Administration.

As a general policy, the 12 bureaus composing the Planning and Research group would concentrate their efforts on their respective activities. These would include technical development and selection of field personnel, but once the field personnel had been selected, the supervision of this personnel would be the direct responsibility of the district health officer.

The bureau headquarters' staffs of the Planning and Research group would



be consistent with the above-prescribed objectives. They would not be staffed for, or attempt to supervise, the field personnel. All directions or instructions, whether administrative or technical, would be received by the district health officer only from his own bureau director instead of from 12 or more sources as it is done at present.

Under the proposed plan of organization, the Director of District Health Administration will not be forced to try to co-ordinate any of the bureaus in the Planning and Research group. This has been a problem for several years.

The essential deviation from present practice lies in the element of decentralization that is inherent in accepting the concept of the strong district organization. In this connection, it is obvious that it requires, in the person of the health officer, a combination of medical and administrative abilities. This combination was observed in the case of some of the present heads of the health centers. However, it is quite possible to train good physicians to be good administrators.

While it is not imperative that the district health officer be a physician, we believe that it is decidedly preferable. It is well known that many hospitals have administrators who are not physicians. The competent ones generally have had formal training in hospital administration. The health district is not strictly comparable to a hospital, and we believe that training physicians in the techniques of administration will provide the basis for a more effective and economical health service than could be obtained by placing a district under the supervision of a layman.

### **Bureau of Maintenance, Division of Purchase and Stores**

These functions should be transferred

to the Department of Purchase and eliminated from this bureau.

Acceptance of this recommendation should result in annual economies of about \$38,000.

### **Office of the Secretary of the Department**

The functions of this department, to a very large extent, represent personnel office matters which should be handled by the Personnel Bureau. Other clerical work done here should be assigned to the bureau to which it actually applies.

The personal service budget should be prepared by the Bureau of Audits and Accounts and consolidated with the balance of budget figures. They should be sent directly to the Bureau of the Budget. Any resulting questions or adjustments should be handled by the Bureau of Audits and Accounts with the Budget Bureau.

The maintenance of the card index of current pay status, pay changes of all employees including responsibility for all changes and modifications, maintenance of absence records, absences without pay, and related records are personnel matters and should be handled by the Bureau of Personnel, which should also conduct personnel hearings.

All mail or personal inquiries concerning vital records, requests for copies including fees involved should be handled by the Bureau of Records and Statistics.

The mimeographing function and equipment should be transferred to the Bureau of Records and Statistics. The additional work load can be handled there without any appreciable increase in personnel.

Sanitary Code amendments, including rules and regulations, should be transferred to the Legal Department.



The proposed plan would reduce the number of employees to 26 and the salary payment to \$72,190 in this bureau, or a difference of 20 employees involving salary payments amounting to \$78,967.

### **Machine Accounting**

Since IBM equipment is in use in the Health Department, and a tremendous amount of statistics is already on IBM cards, there is no reason for recommending the substitution of Remington Rand for IBM equipment.

With IBM equipment, a technique known as mark-sensing can be employed, and is recommended in several of the subsequent sections of this Report. This technique permits field preparation of the cards. The nurse, inspector or other employee merely makes a mark in an appropriate or designated section of the card with a graphite pencil. In the Tabulating Department, the marks are automatically converted into punched holes. Subsequent processing of the card is identical with standard practice.

In the Health Department, several trials of this time-saving technique have been made with varying degrees of success. Where the technique is a complete failure, it is usually as a result of improper training of the people who prepare the cards. The technique has been used with considerable success and economy by large utility companies for the reading of meters and subsequent billing for gas, water, and electricity.

### **Social Hygiene**

An excessive number of forms are used in this bureau. They require an unnecessary number of processing steps at the clinics. Recommended revisions follow:

(1) The present forms 407V, 410V, 411V and 413V should be eliminated. One new form as worked up by us and submitted to the Department should be provided to cover both negative and positive cases. If laboratory findings show that a case is negative, the patient is discharged and the findings are recorded on this medical history form and filed. If the case is classified as positive, the new form contains all identification information together with space provided for all necessary medical, laboratory, and treatment data.

(2) Form 872V, which also covers identification and social information, should be eliminated. It is estimated that the savings on an over-all basis should amount to a total of 47 minutes for each positive case. On the basis of 21,307 cases diagnosed as positive in 1950 the savings would amount to 16,600 manhours.

(3) Form 401V is prepared in every case diagnosed as positive and filed on an alphabetical basis. The information should be revised to show the name of the patient on the top line instead of the word "diagnosis," provide a sufficient amount of space for the address, and insert the word "sex." The change recommended will expedite finding the record and provide a substantial saving of time, particularly on the part of nurses.

(4) Forms 901V, 902V, 904V and 905V should be discontinued and replaced with one blanket form. A revised suggested form was prepared by us and submitted to the Department.

(5) Form 402V, clinic and identification card, is lost or destroyed to the extent of approximately 25 percent of the clinic cards issued (patients object to having their names associated with a venereal disease). The loss of a card means that the nurse has to go to the cross reference index files, extract the cross index card, secure the information again from the patient, and fill in a new card, then return the cross index card to the file. In the meantime, the



processing operations are delayed and the time of a nurse is wasted.

The new form designed by us contains no information to identify it with a venereal disease from a layman standpoint.

(6) Forms 906V, 907V, 908V and 460V are substantially the same and should be replaced by a single form. A recommended form was designed by us and submitted to the Department.

(7) The records covering time distribution are not accurate. It is important to determine the correct amount of nurses' time spent in the social hygiene clinics and we recommend an accurate check of all time distribution.

(8) When any changes in procedures or forms are made, a designated effective date should be announced for such changes and all personnel who use them should be informed by a directive in order to avoid the unnecessary confusion which is now prevalent in some of the social hygiene clinics.

(9) In view of the large quantity of record forms used, an accurate account of forms should be maintained covering both receipts and usage in the clinics.

(10) Form 923V is prepared for every person who visits the clinics and whose case is diagnosed as either positive or negative. It is then forwarded to the Bureau of Social Hygiene, Central Tabulation Unit.

Since no names are shown on any 923V with negative results, and the balance of information requires only totals broken down into six classes, it is unnecessary to prepare a form for each individual case. We designed and recommended to the Department a daily summary sheet.

The annual report of this bureau indicated that there were 46,481 cases completely diagnosed in 1950, of which 19,422 patients were found to be infected with venereal diseases. The difference, or 27,059, represents negative cases. The saving in the

preparation of a separate form for each negative case, allowing  $3\frac{1}{2}$  minutes for each, amounts to 1,600 man-hours per annum. This figure does not include reduction in printing, sorting, typing, and filing time.

(11) In view of the changes in the treatment methods of venereal diseases and the rapidity with which cases are discharged, it is suggested that the present tabulated statistics be reviewed with medical specialists in the field and all nonessential and unused data eliminated.

It is estimated that the above revision of Forms and Procedures will result in a 21.4 percent reduction in clerical time on the part of nurses and clerks with a resultant benefit of about \$30,000 per year. The present shortage of nurses makes any saving of their time worth more than any dollar value.\*

### Public Health Nursing

The experience gained through the operation during the past several years of the Red Hook-Gowanus Health Center District Plan should be put to full use in reducing the amount of time spent by nurses on clerical work. The operation of this plan is already known throughout the Department of Health. Naturally, many phases of it are outside the province of this study, such as the use of nurses from the Visiting Nurses' Association and the extent to which bedside care becomes a public health nursing function. However, there are several phases of the plan which are worthy of consideration for incorporation as General Department of Health Procedure, because it is evident that potentially they represent sound steps in the direction of a more efficient nursing service. They also conform admirably to the concept of decentralization.

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\*ED. NOTE: Because of decline in case load, budgetary allowance for the Bureau of Social Hygiene was reduced approximately \$160,000.



The plan is constructed about the "family as the unit" to receive the attention of the Health Department, and the family record becomes the important document. This record not only includes the complete family roster and index of services which the family has received, but also notations of services rendered, plans executed, instruction and advice given, extent of teaching done, family reaction, and action pending. Comment on the family's relation with social agencies, history of past problems, and periodic summaries of health status of the family, complete the picture.

The value of such information is just as great in the clinic as in the home. The physician or nurse, armed with greater knowledge of the family, can give more concrete and more effective advice in handling problems presented. It is an especially valuable tool when health agencies are called upon to provide multiple services at widely separated clinic locations.

In the Red Hook-Gowanus Health Center District System, the family record is maintained in a 6" x 9" manila cardboard folder and to one of the inside flaps are attached the roster of family members, a summary sheet of communicable disease and immunity status of family, and a progress report. To the other side of the under flap are attached other necessary types of medical records. The folder is identified by a family record number consisting of nursing area number and a family number. The last name of family and address also are included on the folder index plate. However, they are filed by number, and a card file is maintained by name for cross reference purposes.

In connection with the central record file required under this system, the

health center district has been divided into 40 nursing areas, with boundaries corresponding to Census tracts. Each nursing area has a separate file drawer and the family records coming within that nursing area are filed numerically by family number.

Records are transported by nurses or by regular transportation facilities of the Department.

In order that the family record be available for use in the clinic or for home visits, careful maintenance of appointment sheets is required; these, for clinic sessions, are sent to the record room five days in advance so that schedules can be planned accordingly.

The Red Hook-Gowanus District Health Center has between 5,000 and 6,000 active family record cases which are serviced by 24 Department of Health nurses, and 12 nurses of the Visiting Nurses' Association.

Experience of the plan at this health center shows that it is an efficient system for handling a large volume of family records going to some 40 field nurses and 6 clinics. Among its more important advantages are better medical and nursing service, avoidance of duplication, improved case finding, background information for solution of individual case problems as well as for program planning, and increased public confidence. The apparent increase in cost for such a record system stems from additional clerical salaries, equipment cost, rental for space, transportation, and supplies.

Objections to the family record plan made in the Department of Health cover the necessity for four clerks to maintain the record room, unavailability of the family record folder, the feeling on the part of some physicians that the record is of questionable value to them



in case diagnosis, bad effect on morale by the inclusion of nurses of the Visiting Nurses' Association, since the Department's public health nurses are paid about 25 percent less, the feeling that too much nursing time is consumed by bedside care, and that the folder becomes voluminous as nursing data increases, necessitating summarizing by manual means.

In our opinion, the additional cost of the four clerks is insignificant when compared to the increase in nursing efficiency that can result from the system. Most of the objections stem from carelessness in carrying out instructions. The procedure is basically sound. Lack of understanding of the system due to faulty educational procedure can be partly responsible. Physicians who use the family record system and who understand its value are enthusiastic about it. Nurses familiar with it are lost without it.

The inclusion of Visiting Nurses, and the addition of bedside care to regular nursing activities are not necessarily a part of the family record system and should not be a factor in the determination of the value of the system. There is no question that the family record folders can become unwieldy, requiring summarization. However, it is not suggested that the summary be prepared in longhand by the nurses. Dictating machines should be used for this purpose.

The value of statistical information has been recognized in connection with the Red Hook-Gowanus project, and a plan for using mark-sensing in the collection and tabulating of statistical data has been formulated. However, it has not been put into practice, the principal reason given being that it would require too much clerical time. This assumption is not well founded.

In view of the foregoing, it is suggested that consideration be given to the adoption of the family record system in all district health centers. This need not necessarily include the use of Visiting Nurses' Association personnel.

The creation of nursing areas within a health district appears to be desirable even if the family record system is not adopted. This provides a better control over the potential work load of each nurse in the health center.

The use of mark-sensing in the collection and tabulating of important statistical data should be given a fair trial.

A system of visible indexing on all files should be installed.

Dictating machines should be used in district health center offices.

Transportation problems confronting nurses should be reviewed, particularly in the Bronx, Queens, and Staten Island. Either an automobile should be assigned to each of these health centers, or sufficient mileage allowed to those nurses who could use their own cars.

### **Bureau of Food and Drugs**

Initial reports of inspection now made on forms listed below should be made on tabulating cards employing the mark-sense principle.

Forms 104X, 171X, and 333X should be redesigned to provide a detachable punch card. The cards, processed mechanically, would provide important statistical data immediately. If follow-ups were necessary to insure the abatement of the violation recorded, the paper basis for follow-up could be derived from the punched card.

### **Audits and Accounts**

As has been stated, the preparation of payrolls represents about one-third of the entire clerical work of the bu-



reau. Very little mechanization is employed in this work at present; however, payroll handling is the subject of another study that is being made on a City-wide basis.\*

As indicated previously, accurate cost records are maintained for the Department by this bureau. The elements of the budget should be co-ordinated with the Organization Chart.

### Records and Statistics

At present, only 27 percent of available manpower in the Tabulating Division is devoted to the tabulating of vital statistics. If tabulating room capacity were adequate this percentage would be even less, because there is potential work to be done for other bureaus of the Department that is not now being done.

It is recommended that consideration be given to the transfer of the function of permit and certificate issuance to the Bureau of Permits, and the remaining divisions of tabulating, statistics, and coding be retained as components of a reorganized Bureau of Tabulating and Statistics.

The Bureau of Permits, organized to carry out this function, should easily absorb this load and handle it with less personnel than is now necessary in the search and issuance of certificates and permits in the Bureau of Records and Statistics. Many advantages of uniformity of procedure would be obtained through such a combination.

With respect to the Tabulating Division, there is a serious lack of adequate supervisory personnel, that is, operators familiar with the wiring of IBM equipment and with the ability to instruct others in its operation. It is strongly

recommended that every effort be made to obtain an upgrading for IBM supervisory personnel.

At present, IBM machine capacity shows substantial idle time. The principle reason for this is the lack of experience or training of the personnel. This lack of trained leadership is largely responsible for an indifferent attitude on the part of the workers, with consequent low production per man-hour. The work load is there but a great deal of valuable data has not been tabulated. The only piece of equipment required to bring about better balance is a punch machine, which it is estimated would increase punch-card production by 15 percent.

The Department of Health requires a well-trained and highly efficient staff of statisticians. Unfortunately, the Department has not been able to maintain such an organization, particularly during the past several years, largely through failure to pay salaries comparable to those received for similar positions with either the Federal or State governments. That the Statistics Division of the Department of Health is badly disorganized may be seen from the fact that for the year ending May 1, 1951, the turnover of junior statisticians was almost 200 percent.

### Sanitary Inspection

This bureau is hampered by the inability to secure important statistical information within a reasonable time. Inspection Summary Form 2E, for coding and preparation of punch cards, has been designed to provide this tabulated statistical information. However, since the Tabulating Division does not have the capacity to execute this work, it is not being done.

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\*ED. NOTE: See Chapter IX, Section 2.



As a source of temporary relief, it is proposed that items 28 to 39 in the coding forms should be tabulated by some other department of the City government which has the necessary idle capacity to absorb the load.

## **Tuberculosis**

All Tuberculosis Roster Files should be transferred from the service department in each of the district health centers to the chest clinics as the work load is concentrated at the clinics. The revised procedure will result in saving valuable nursing personnel time.

At present, tuberculosis clinics use an IBM punch card to indicate the addition of new cases to the roster or to indicate any change in the status of a patient. This consists of recording in longhand on top of each card the name of patient, address, case number, date, and name of district health center. A pencil check is made in the block to indicate the diagnosis or description of the case. These cards eventually go to the Tabulating Division, where new cards are key punched in preparation for tabulation.

It is recommended that the cards be redesigned for mark-sensing in the clinics, so that key punching can be done automatically. These cards would have to provide for about 25 columns on the "new cases" cards, and about 18 columns on the "change of status" cards. Both of these cards come within

the limitation of the 27 columns which is the maximum number that can be accommodated on a mark-sense card. The only change in procedure required by nurse or clerk in the clinic would be the use of a mark-sensing pencil in making the designation in the appropriate block for diagnosis or description of cases.

The preparation of the mark-sense card does not add to the clerical work in the clinic. It does reduce the load in the already overburdened Tabulating Division, and makes possible an earlier availability of important statistical data. The Tabulating Division believes that the use of mark-sensing in this connection is practical and should become effective.

## **Dictating Equipment**

It was observed frequently that, despite an apparent shortage of stenographic help, there was little use of dictating equipment. The shortage of stenographic services is partly overcome by requiring nurses and other important personnel to transcribe or prepare field reports manually.

The reconstituted Business Administration function, recommended in this Report, should make the expansion of the use of dictating machines one of its early projects. In the meantime, at least one dictating machine should be supplied for each health center for the use of medical, nursing, and executive personnel.

## **GENERAL SUMMARY**

It is believed that annual economies in excess of \$1,000,000 can be effected in the Health Department.\*

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\*ED. NOTE: The Mayor's Committee does not accept literally the dollar savings claimed as possible on clerical effort.

Recommendations regarding the revision of clerical procedures and forms used in the operation of the clinics of the Bureau of Social Hygiene indicate a possible 21 percent reduction in clerical time on the part of nurses and



clerks, with a resultant benefit of about \$30,000 per year.

Application of the same general techniques and principles to all other bureaus having clinical operations, employing a total of 418 workers (335 clerks and 83 public health assistants) might result in a 20 percent reduction of clerical time or of some \$200,000 annually.

This reduction in clerical time would make available the equivalent of 166 nurses for duty which, valued at \$3,200 per year per nurse, amounts to \$530,000. The importance of this additional nurs-

ing time cannot be overemphasized as it is doubtful if 166 nurses could be acquired at this time.

Likewise the revision of procedures would require less clerical work on the part of per-session physicians. The reduction in time spent on clerical work has been estimated at 5 percent or a benefit of \$115,000 per year.

The benefits listed in the foregoing amount to \$846,000 annually.

In addition, other recommendations provide economies as follows: (1) Office of the Secretary, \$79,000; and (2) Bureau of Maintenance, \$38,000.

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## SECTION 3

# ACTION OF THE MAYOR'S COMMITTEE

## Organization

(1) The Mayor's Committee takes the position that the basic problem is to stimulate gradual decentralization of the health program, rather than to insist upon a formal reorganization. We therefore endorse the principle of more autonomous operation in the district offices, and more *consultative* rather than executive operation on the part of central office technical bureaus. The organizational plan proposed by Barrington is endorsed as a pattern, with modifications in line with APHA recommendations calling for the appointment of a special high-caliber aide to the Commissioner, for follow-through on basic programing, especially the implementation of the APHA recommendations endorsed by the Committee.

(2) We endorse in principle the

APHA recommendations concerning the Office of Environmental Sanitation. However, we do not recommend the abolition of the Bureau of Sanitary Inspection, with transfer of inspectional activities as indicated, unless it can be established that the present reimbursement by the State of 50 percent of the cost will be retained for inspections transferred to the schools and to the Department of Housing and Buildings.

(3) We endorse the APHA recommendation that the presently vacant position of Director of the Bureau of Sanitary Engineering be filled with a person thoroughly trained and experienced and of recognized standing in the field of sanitary engineering. However, in view of the recommended eliminations and dispersions, we question the need for two bureau heads (one for Sanitary Engineering and one for



Food and Drugs) with an intervening assistant commissioner in the topside organization. Accordingly, we suggest that for the present the Assistant Commissioner for Environmental Sanitation continue to absorb the functions of the Director of the Bureau of Food and Drugs, for which he is specially qualified. Our long-term recommendation is that the Assistant Commissioner for Environmental Sanitation be a sanitary engineer, combining with his function that of Director of the Bureau of Sanitary Engineering, and that there be a separate Director of the Bureau of Food and Drugs.

(4) The Committee endorses the proposal for fixing the term of the Commissioner at six years, and the proposals regarding the Board of Health and appointment by the Mayor of various boards and committees. The specific plans presented by the APHA for interdepartmental relations are endorsed as an important step toward effective and efficient action in the field of health.

### **Procedural Routines**

(5) While we note departmental objections to many of the specific recommendations in the Barrington Report, and agree that dollar savings attached to reductions in clerical effort (which it is claimed will result from procedural changes and combinations recommended) cannot be accepted literally, we find that the types of suggestions made do indicate important opportunities for economies, and pass them on to the Department for implementation to the degree possible.

(6) We take cognizance of recommendations on personnel administration and program budgeting. These are covered in other Reports of the Committee treating these matters on a City-wide

basis. However, we urge that steps be taken immediately to strengthen supervision in connection with tabulating equipment operation.

(7) We endorse the wider application of the "family unit" record system as used in the Red Hook-Gowanus Health Center District plan, based on the creation of nursing areas within the health district, if further investigation shows the possibility of important advantages in record keeping, as contended in the Barrington Report.

(8) We urge that arrangements be worked out in co-operation with the Division of Analysis of the Bureau of the Budget and the appropriate equipment manufacturers to give a thorough trial to such techniques as mark-sensing, in view of the possibility of significant reductions in clerical work.

### **Future Program Developments**

(9) As laymen, the members of the Mayor's Committee are deeply impressed with the program envisioned in the APHA Report, and we specifically endorse the General Priority Outline recommended by it.\* Where a substantial part of the added budget costs involved can be met by shifting the appropriations from activities no longer urgent to these newer programs, and by taking advantage of suggestions for efficiency and economy contained in the Barrington Report, the general direction of the program is endorsed. Where large-scale appropriations would be involved, such as in the fluoridation program, endorsement is withheld pending the realization of equivalent economies in administration.

(10) In the area of scientific discovery and technological development, we encourage the Department of Health to

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\*ED. NOTE: See p. 643.



extend its activities even beyond the program suggested in the APHA Report, and recommend greater emphasis upon the closely co-ordinated operation of the Public Health Laboratory and Clinic. Such a program, conducted in close relation with the research program of the great medical schools, would give impetus to the advancement of public health administration. We are convinced that the ideas of the present Commissioner along these lines are thoroughly sound. It is evident that the work of the laboratory would be greatly improved by the consolidation of its activities in a single modern location.

(11) We note the comments in the APHA Report regarding inadequate sewage disposal in certain areas, and the fact that the Department of Health exercises negligible influence in the programing of public sewage disposal facilities. We endorse the Report's recommendation that the Department should regain leadership by interdepartmental negotiation and influence, since the primary reason for vast expenditures on sewage treatment is the protection of health.

(12) We note with favor the APHA recommendations regarding the training and reassignment of public health nurses and the reorganization of the Bureau of Nursing before budgeting more public health nurse positions. However, in view of present turnover and the inability of the Department to fill presently budgeted nursing positions, we recommend the re-establishment, under proper safeguards, of a Civil Service classification designed to make a place for those who can perform practical, nonprofessional nursing duties connected with the care of patients in the public health service.

(13) While the benefits of intensified

activity in mental health are recognized, caution is recommended in this phase of programing suggested by APHA in view of the tremendous budgetary burden involved, the shortage of personnel, and the difficulty of defining precisely the patient need in this area. The program might well be restricted initially to the needs of children and youth.

(14) In the light of recent developments in the treatment of tuberculosis, previous plans for current operations and capital outlays in this field must be reconsidered. However, it is recognized that there is still an urgent need to organize tuberculosis services epidemiologically, and to make the best use of the still limited facilities. The very effectiveness of the new therapeutic agents points to the urgency and feasibility of stamping out tuberculosis through a vigorous program over the next decade.

(15) More than any other major City department, the Health Department faces a continual stream of changes in its basic techniques, duties, and opportunities because of the developments in scientific knowledge, drugs, and curative and preventive medicine. The Department thus faces a unique responsibility both for keeping all of the activities of the City related to health up-to-date and in step with these developments, and for keeping its own work flexible and adjusted. A good illustration of this need today is found in the opportunity for discontinuing the milk inspections in rural areas, which can now be handled by the State, and the abandonment of the manufacture of biologicals (with the possible exception of smallpox antitoxin) as recommended by the APHA survey. Changing conditions such as these require flexibility in programing.



(16) The dogbite service should be reduced in scope, rather than eliminated, as recommended by APHA. In view of current developments of new vaccines, a re-examination of the Department's anti-rabies service is recommended.

(17) Special attention is called to the APHA recommendations regarding the need for reorganization of the health education program. We urge that a qualified person be engaged as soon as possible to head this activity and to take part in its reorganization.\*

(18) In general, the Mayor's Committee stresses the preventive function of the Department of Health, and in this connection urges that those program elements having to do with preventive

work with infants and youth be strongly emphasized. We also call attention to the leadership function which the APHA Report emphasizes as inherent in the Department of Health. The Department has broad legal responsibility and powers for looking at the total impact of disease on a city and for being the key to effective teamwork of all concerned in furnishing community health services. Thus the Department should be looked upon not merely in terms of its direct services, but also in terms of the influence it can have upon the activities of voluntary agencies in New York City. In this connection, we lend support to the type of Sanitary Code revisions recommended by APHA, and urge that the Commissioner of Health take the initiative in securing appropriate action.

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\*ED. NOTE: A Director of Health Education has been appointed.



## CHAPTER XVII

# Sanitation

### EDITORIAL NOTE

The study of the Department of Sanitation centered on four main areas: (1) collection and street cleaning; (2) equipment and facilities; (3) management techniques and performance yardsticks; and (4) long-term capital plans. These specific points of emphasis were decided upon after an exploratory study by the Trundle Engineering Company, who were then engaged to carry on the main study.

Prior to general release, the Report of the engineers, dated May 21, 1951, was reviewed by the Headquarters Staff of the Mayor's Committee, the Citizens Budget Commission, the Division of Analysis of the Bureau of the Budget, and the staff of the Department of Sanitation. Resulting discussions showed the desirability of additional material and, following further analyses, a Supplementary Report dated August 20, 1951, was issued by the engineers and bound in with the final Report as released. It adds information on: (1) man-hour utilization; (2) frequency of collections; and (3) centralization of repairs.

No all-inclusive study of operations was considered necessary, since this major Department with a 1952-53 budget of over \$58 million had been subject to intensive recent study by the Division of Analysis and the Citizen Budget Commission.

The combined Report was further discussed with the engineers and the Department of Sanitation. As a result of those



discussions, the Trundle Engineering Company agreed to certain modifications in their Report, covering the following items: (1) percentage of trucks out for major repairs; (2) population figures on which long-term estimates were based; and (3) the mention of Jamaica Bay in connection with land fills. These changes are particularized in a change sheet inserted after the table of contents of the Report as distributed.

Both the main Report and the Supplementary Report are digested in Section 1 of this chapter, with the exception of the supplementary material on centralization of repairs, which merely quotes from a Department report and does not add substantively to the results of the study.

At the conclusion of that portion of Section 1 covering the supplementary material, a digest of the engineers' checklist of major findings is given. This appeared in the front section of the main Report and is given out of sequence here in order to include in it, where appropriate, significant points developed in the supplementary material.

It will be noted that the action of the Mayor's Committee (Section 2) endorses the management improvement programs put under way by the Department and recognizes that few of the consultants' recommendations are totally new.

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## SECTION 1

# OPERATIONS AND EQUIPMENT

BY

THE TRUNDLE ENGINEERING COMPANY

The objective of this project was to achieve efficiency and economy in the

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Digest from "Department of Sanitation of the City of New York", May 21, 1951, and "Supplementary Report", August 20, 1951, by The Trundle Engineering Company.

Department of Sanitation. Four areas of study were covered: collection and street cleaning, with particular attention to scheduling and routing; adequacy of equipment and facilities, giving consideration to maintenance,



usage, and expansion; management techniques and performance yardsticks, in regard to proper control of the Department's several functions; and

long range plans, to meet the City's needs as determined by technological changes in processes and methods affecting basic operations.

## REFUSE COLLECTION AND STREET CLEANING FUNCTIONS

### Operation Limitations

The Bureau of Street Cleaning and Waste Collection collects ashes and rubbish only from residential buildings, public buildings, and special buildings; in other words, from homes, City or State occupied buildings, institutions, hospitals, and churches. The bureau will collect, if requested, garbage from any building except that, if the garbage is mixed with ashes or rubbish, it will not take it from a business origin. Thus the bureau collects but 74 percent of the City's garbage and rubbish.

In popular opinion the bureau is presumed to be responsible for cleaning all the streets in New York. However, statute places the care of *nonpermanent* streets in Queens and Richmond in the hands of the respective Borough Presidents. New York has 5,750 miles of streets, totaling 76 million square yards in area; of this Queens has 540 miles which are not "permanently paved," so that the total for the City at large cleaned by the bureau is 5,210 miles, or approximately 67 million square yards.

The bureau collects approximately 5,000 truck loads of refuse daily, utilizing over 1,400 trucks, which is, incidentally, the largest sanitation truck fleet in the world.

### Supervision and Management Control

The organization of the bureau is simple and direct, following a military pattern to provide a chain of command. This is accented by the fact that it is

a uniformed force, the supervision wearing lieutenant's or captain's bars, or a major's leaf. The bureau is headed by a chief, responsible to the Commissioner through the Director of Operations. The City is divided into eight boroughs,\* each directed by a superintendent. In turn, the boroughs are divided into 60 numbered districts, each having a superintendent. The smallest unit or organization is termed a section, totaling 244 in all. A section is directed by a foreman and assistant foremen in charge of approximately 30 sanitation men, such as truck drivers, sweepers, loaders, and similar personnel.

Compared to other operations of similar nature, size, or importance, or that might involve the spending of as much money and employment of as many men, there is little evidence of top management control within the bureau to insure that its job will be done efficiently or economically. Specific orders related to changes in work program are transmitted from bureau headquarters to borough headquarters, then relayed to district and section levels. Administration, however, is by delegation of broad responsibilities to supervision in the lower echelons with little establishment by top management of policies or methods to be followed.

On the part of the public at least, and frequently in the minds of super-

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\*ED. NOTE: The eight boroughs of the Department of Sanitation are not synonymous with the five Boroughs of the City.



visory personnel, considerable confusion was noted, caused by the divided responsibility for servicing certain areas, as shared between the bureau, the Offices of Borough Presidents, and other departments of the City government. This is aggravated by the fact that certain types of services are under one department and other types, occurring in the same area, are not. The bureau's task would be made easier and public relations would be improved if responsibility for cleaning or servicing any given area was established by departmental regulation.

The Department in general and the Bureau of Collection in particular operate through supervisory units designed to serve conditions in the past. In 1926 the Department began to motorize its vehicles and a new field organization and supervisory unit came into being, namely, the garage. Since then the garage has inevitably become the heart of each district's operations. At present most of the district administration headquarters are located at the garage and properly so. In the few instances where located elsewhere, the superintendent feels handicapped and the borough superintendent is in agreement.

From the standpoint of vehicle maintenance, the present districts are needlessly small. This fact is the major reason for the very high ratio of supervisory time to productive labor time.

Districts are now divided into sections and their use reflects needs peculiar to covering by foot or by horse-drawn vehicles. Nevertheless, while the district garage has become the natural center of district operations, sections and their section headquarters' stations have been retained. Continuance of these is duplicative and wasteful.

In some instances two or more district garages are combined in one location, frequently with an incinerator plant. Such an arrangement decreases the physical adequacy of the facilities, but, more important, it promotes confusion in organization and difficulty in administration, unless, of course, the affected personnel are in fact placed under one responsible superintendent by consolidation of the two districts into one.

The positions of sanitary section foreman and assistant section foreman are superfluous and should be eliminated. The ratio of field supervisory time to productive time throughout the bureau is extremely high, because many districts are too small and unnecessarily divided into sections. On the average there is one supervisor for every eight men engaged in productive work. This does not include borough superintendents, their staff, the clerical force at district offices, nor garage service forces. It does embrace direct supervision at the district level, namely, the district superintendents, foremen, and assistant foremen.

It is recommended that district foremen be fully motorized by equipping each with a small self-driven vehicle that would allow him to be in close continual contact with trucks and crews operating in his district. This vehicle might well be a 4-wheel-drive "jeep" station wagon, affording ability to transport men when necessary or carry tools and materials in an emergency. Also, a jeep could be fitted with a light plow for crosswalk snow removal.

In theory, at least, loaders are expected to sweep in nearby areas during their trucks' absence en route to a disposal point. The sweeping thus performed is of little value, practically



considered. The requirement to "apparently keep busy" seems due to the public's reaction when several employees appear idle. Actually, the casual observer has no idea of the physical effort demanded in handling loaded refuse containers in rapid sequence and that idle loaders are merely indulging in a well-deserved rest period. It appears that this point could be explained by the Public Relations Office to the public at large.

The practice of requiring truck drivers to be back at the garage for four o'clock roll call, thus ending all loading and work of the loaders at a very early hour (while the truck makes the last trip to the dump), seriously reduces the effective employment time of the men involved. A simple solution would be to keep the truck crew employed for the full eight-hour period, arranging that the vehicles be serviced by a night shift and thus be made ready for use next day.

It will be helpful at this point to summarize the time-employed status of the bureau's work force. Personnel are employed on a 365-day year and required to work 313 days, less 24 days annual leave, less 9 granted holidays, and less 2 weeks sick leave. Men may not work more than 8 hours per day, or 48 hours in a week. With the exception of snow work, overtime is paid by compensatory time off.

Stated on a daily basis, each man in the bureau is employed 480 minutes a day. From this, 80 minutes must be deducted for roll call attendance, travel time between the work point and headquarters station, and fatigue time. If, in addition, he returns to the garage, frequently as early as three o'clock, his productive time is less than 72 percent of his employment hours. This summa-

tion explains, but does not justify, the apparently large labor force employed by the bureau.

### **Methods and Results in Bureau Operation**

Of the twelve largest United States cities, five are reported as collecting garbage twice a week, five once a week, and only two more often than twice a week. Collection in Manhattan is uniformly set on a daily basis. This is true also in certain specified congested areas in Bronx, Brooklyn, Queens, and a small portion of Richmond. The rest of the City receives three-times-a-week attention.

The typical metropolitan family has very little space in which to accumulate refuse; almost none has an alley, court, or basement available for this purpose. From the bureau's viewpoint, less frequent collections are not practical because the total volume to be collected would still be the same. If refuse were allowed to accumulate and were then picked up perhaps half as often, the number of trucks and crews congregated in a given area would be twice as many, thus intensifying an already formidable traffic problem. Allowing material to accumulate longer would also increase the number of containers to be provided and lengthen the time in which they become an eyesore and nuisance on the curb.

### **Mobile Equipment Utilization**

A major obstacle to effective collection and street cleaning is parked cars. The most effective solution yet tried is the restriction of parking to opposite sides of a street on alternate days. The first tests of this plan proved most effective, so that additional districts have prepared areas to extend the method.



The use of mechanical brooms by the bureau has failed to keep pace with the inherent possibilities of such development. Streets that can readily and effectively be cleaned by flushers and mechanical brooms are still swept by hand.

Certain boroughs and districts as found in Manhattan-East and in Queens are at a disadvantage in waste removal, because of the uneven distribution of disposal points. There is a tendency to limit a borough's disposal to a location within that borough. This limits the efficiency of handling.

The distribution of mobile mechanical equipment to the several boroughs and to some extent within a borough is not in direct ratio to need. While this applies to some extent to collection trucks, it is more apparent in the case of special purpose equipment, as mechanical brooms and spreaders.

Too little use is made of relay trucks. A relay truck is an added vehicle assigned without loaders, dispatched to arrive at a collection area about the time the loaders of the regular vehicle have finished. This second truck is then loaded while the first goes to the disposal point, thus reducing nonproductive time of the loading crews. In some districts, such as are found in Queens, the disposal trips require more time than loading.

### **District Garages, Headquarters**

The district garages are, in many instances, poorly equipped to serve their respective districts. Many have inadequate space to house or work on necessary equipment.

In the district garage buildings, the portions that are devoted to personnel are in much better shape than are found in section stations. Nevertheless, should section stations be abolished, as recom-

mended elsewhere in this Report, district headquarters will be entirely inadequate in nearly all the district garage buildings.

### **Public Acceptance**

To determine public acceptance of the Department's work, a poll of public opinion was made throughout the City by an adequate sampling of the population, sufficiently diverse so that typical sections and problem areas peculiar to New York City would be covered.

Of 525 valid interviews concerning collection, 94 percent said that the services rendered were adequate and they were satisfied with the operation. The principal complaints concerned denting the cans, excessive noise, or night collections.

Street cleaning operations were subject to much greater criticism than collection, with only 75 percent of the people interviewed satisfied with street cleanliness. There were various types of objections, the most important being the infrequency of the operation. Brooklyn, Queens, and the Bronx scored most heavily in this respect.

The general results of this survey would not seem to indicate as much fault-finding with the Department as anticipated prior to its undertaking. However, figures alone do not convey the true picture of the field problem confronting the bureau. Complaints registered on refuse collection were centered mainly on night pickups, avoidable noise, the failure to arrive at approximately the same time on recurring collection days, and the failure to swing back to normal collections after a snow. In outlying sections, such as Queens, the large buildings would like a collection some time between Friday and Monday.



The street situation presents another picture. Here complaints were more numerous and were registered by people who were irritated by what they felt was a neglect of duty on the part of the bureau. The public, in the main, were prone to blame the mass parking of vehicles rather than the bureau for the condition of the streets.

It was suggested by some civic groups that a "Nuisance Court" be established to enforce the sanitation laws. In Magistrate's Court these infractions seem minor compared with the rest of the docket, and defendants in sanitation cases are allowed to escape fulfillment of their obligation.

It was also frequently suggested that an enforcement officer be permanently assigned to each district to handle violations in that district.

This enforcement officer should have the authority to ticket cars illegally parked and hampering Department activities and to remove derelict and abandoned cars, thus eliminating the red tape now involved when the Police Department is called.

There was much comment on the problem of divided responsibilities between Borough Presidents and the bureau, which creates duplication of effort and hampers results.

### **Public Contracts**

A few inspectors are assigned individually to districts but in the main they operate in squads, shifting about as need indicates. This last procedure gives rise to complaint of "gestapo methods," the method being viewed as in the nature of a raid. They have little police power and cannot ticket cars. Fuller acceptance on the part of the public as to the essential nature of sanitation inspection would be had if the men were permanently assigned to districts and trained as public relations representatives, resorting to punitive measures only when persuasion fails.

The Public Relations Office is of great importance to the bureau. Limited observation would indicate that a good job is being done, as evidenced by the rather high acceptance of the Department's administration by the citizen at large.

## **EQUIPMENT AND FACILITIES**

### **Mobile Equipment**

The Department is very completely mechanized. Its mobile equipment is entirely motor driven and with many specially designed items. The buildings are provided primarily for housing equipment and carrying on maintenance operations. Incineration plants, loading stations, and unloading docks, at appropriate points, constitute its major facilities for processing and disposal of collected refuse.

**Collection Trucks**—At the time of the survey, the Department theoretically

had available for service 2,026 automotive trucks.

Of this number, 1,203 units had been in operation 11 years or more. Seventy-two box trucks have been withdrawn lately from operation because of obsolescence and excessive maintenance and operating costs. It is expected that such withdrawals will continue since it is necessary to salvage some units for spare parts to keep the remainder in service.

Check of the Morning Report of March 9, 1951, showed 13 percent of



the trucks to be unserviceable. This compares favorably with experience in private firms, where it is found necessary to provide for 10 to 15 percent surplus vehicles.

The Department has validated and applies an engineering formula to give the daily weight accomplishment of a truck, thereby comparing the over-all efficiency of one type, one unit, or one operation with another.

Looking forward to the time when the full Incineration Program is completed, it appears that the Department should limit its fleet to two types of trucks, as far as refuse collection and street cleaning are concerned: (1) the Compactor-Escalator type for door-to-door pickup service, and (2) a vehicle, probably of box type, that may be used in conjunction with a power-loader, either front or rear. This could pick up piles of street litter as accumulated by the mechanical sweepers and handle snow loaders when necessary.

The old mechanical Conveyor-Escalator trucks seem to be chiefly responsible for the Department's excessive automotive expense. These, together with the nonconverted box type trucks still in service, account for 85 percent of the total expense for maintenance. Unquestionably, on the basis of obsolescence and excess maintenance cost, they should have been replaced long since. (Presumably the war years made this impossible.)

There has been a tendency to select equipment giving emphasis to convenience of repairing, to the detriment of adopting the most efficient operating design. This policy promotes low repair costs at the expense of low operating cost or productive work.

The Department should install a systematic method of analysis to determine

when to de-commission a unit after it is appraised, both as to its cost of operation from an obsolescence viewpoint and its cost of repairs from a maintenance viewpoint.

Considering the fact that, under today's conditions, there are approximately 1,225 day-truck shifts and 340 night-truck shifts required on the heaviest days (Monday, Tuesday, and Saturday), a total fleet of 1,400 vehicles should be adequate. This would provide approximately 15 percent allowance for down time repairs. As 140 trucks would be idle on the remaining days of the week, by properly scheduling each vehicle for such service, these could be rotated for preventive maintenance and minor repairs. The estimate of departmental officials that 1,600 collection trucks are required for the Department's work seems exceedingly high.

Standardization on only two types of trucks would greatly reduce the number of parts to be stocked and would improve the proficiency of repair work. Concerning capacity, 18.5 cubic yards are a good payload for New York City's streets.

The entire truck replacement policy is not realistic. It appears to be based upon dollar limitations (or availability) rather than on the needs of the Department. If long continued, this will cause increased operating costs because of the increasing number of breakdowns.

**Flushers**—There are 175 flushers carried on the Department's inventory, 167 being assigned for service at the present time. The units are old—43 being acquired before 1937, 75 in 1937, 25 in 1939, and 32 in 1941 and 1942. However, unlike trucks, their hours of use each year are limited and their design is affected very little by obsolescence. It may be assumed that they are compe-



tent for the service required. Flushers are overhauled, in the winter, for major mechanical repairs. The cost of maintenance is reported to be only 1.28 percent of the total cost for all mobile equipment. During winter, the flushers are fitted with plows and used for snow removal.

**Mechanical Sweepers**—This fleet consists of 98 units. They are used irregularly in winter, depending upon weather. (These should not be confused with snow brooms.) Approximately 6,000 curb-miles of New York streets are considered suitable for mechanical sweepers. The 97 available units should be able to clean this amount thoroughly at least once a week.

New York's experience has been that a mechanical-sweeper unit can clean properly about 11 curb-miles in eight hours and, on occasion, this figure has risen to as high as 16 curb-miles. Other cities report that a goal of 25 curb-miles is easily attainable. The difference in these accomplishments may be explained by variations in traffic conditions, particularly parking, and also by what is considered satisfactory cleaning. The Department should continue its study of mechanical-sweeper application and design.

**Snow Removal Equipment**—The Department has 1,010 units of mobile equipment on hand, dating from 1937 on. This equipment is in good operating condition and appears ample, when compared to that of other cities where snowfalls are heavier and street areas to clear are approximately comparable.

**Land Fill Equipment**—The Department is particularly well equipped for this function. The largest portion and most essential items on its list of equipment are relatively new, having been acquired since 1945, and receive very good re-

pair and maintenance. The necessity for traveling constantly over soft and uneven terrain places a great strain on mobile equipment. It is suggested that a study be made of the feasibility of laying airstrip matting to afford temporary roadbeds from the hard road surface to the dumping point.

**Miscellaneous Automotive Equipment**—The Department has a comprehensive fleet of general or special-purpose units primarily used for operation of maintenance facilities and for the transportation of supervisory and administrative personnel and also materials. It is in good condition and well maintained.

### **Buildings and Facilities**

**Garages** — The Department has approximately 65 garages, affording an estimated 1,300,000 square feet of floor space. Approximately one-third are rented buildings but for the most part the garages are City owned. Rental costs are stated to be \$450,000 annually and maintenance costs are given as \$117,000 a year.

With a few exceptions, a garage is the headquarters location for a district. Besides housing its assigned motor vehicles, it provides office space for supervisory personnel, wash and locker rooms for sanitation men, and space for automotive maintenance and repairs. The condition of these facilities varies from fair to good. Many of the buildings are overcrowded and poorly adapted for their purposes.

The district garages are poorly equipped, lacking in many instances the simplest manual tools and standard automotive repair appliances. Since it is impractical to equip each shop with proper machine tools to perform an adequate range of shop work, it is recommended that all but the simplest repair operations be removed from the garages.



The Bureau of Engineering's studies have convinced them that a single central automotive repair shop will best serve the Department's requirements. The project staff concurs, the site favored being in Queens adjacent to the Betts Avenue incinerator property.

Very considerable space in the garages is taken up in housing equipment of infrequent use, such as snow-removal units, snow brooms, plows, and snow loaders. In the spring these should be stored in open sheds outside the metropolitan areas.

**Shops**—The Central Motor Repair Shop and Storeroom (East 16th Street and Avenue C, Manhattan) is a multi-storied loft-type building with 586,000 square feet of floor space. However, approximately 253,000 square feet are occupied by other City departments. The building is badly congested and poorly arranged. The quality and quantity of work performed are remarkable under the circumstances. The conduct of operations is well planned and operations more nearly approach a production-line basis than any elsewhere observed. Good supervision accounts for this.

The Department has several other shops—Fresh Kills, Elmhurst, and several of specialized type for painting and building repairs, employing approximately 350 men.

**Weighing Devices**—The Office of Engineering has sponsored a trial installation of modern weighing devices at the Gansevoort Marine Loading Station. The scales mentioned are fitted with an electromechanical recording device which gives automatic accurate weight figures on a continuous printed tape that may be subsequently sorted by an I.B.M. system. The device will provide the necessary tamper-proof statistical data for adequate management control.

**Incinerators**—The Department has 11 incinerators, with aggregate rated capacity of 5,500 tons per 24 hours. Between 1937 and 1945 it was the City's policy to utilize refuse and waste for development of marginal land into park areas and landing fields. The approaching exhaustion of suitable fill sites caused policy to swing once more towards total incineration, with the result that the Betts Avenue Incinerator was built after World War II and a new unit at Gansevoort Street, Manhattan, is under construction.

All incinerators, with the exception of the Betts Avenue, are of outmoded design. Their manually stoked furnaces result in expensive labor. Furthermore, to obtain proper efficiency in burning, the men must be particularly proficient. Except for the small incinerator in Richmond, all units are charged from overhead by traveling crane and bucket. Three have long and high ramps which the collection trucks climb to empty into receiving bins.

Greenpoint, Hamilton Avenue, and the new Gansevoort Incinerator (not yet finished) are the only units with waterfront locations permitting discharge of residue directly into barges, without truck transport. Only 56th Street generates power, thus supplying its own requirements. The other plants, however, have waste heat boilers for their own heating purposes. None of the incinerators now installed have any means of dust suppression, and this lack of a modern requirement makes their design obsolete under present-day standards.

The variations in operating cost per ton, as reported by the several units, are widespread, but are explainable by the differences in tonnage available to provide uninterrupted continuous 24-



hour operation, quality of material presented for burning, and similar uncontrollable factors. The total average cost, for all units, of \$2.71 per ton of mixed refuse compares favorably with experience in other cities having similar manually stoked furnaces.

**Marine Loading Stations**—The nine stations are adequate for the load to be handled, but only three are modern. In some cases, their locations may be criticized.

**Barges**—The 42 steel barges and three tugs are maintained in good shape.

**Land and Marine Fills**—The operation of the several fills reflects great credit upon the Department. All deposited material is immediately covered with sand or soil, minimizing rodent digging and obnoxious odors.

Considerable lost time and high maintenance costs might be lessened if airstrip mats were laid to form a temporary but more stable roadbed at the fills. Substitution of a belt conveyor for Athey Wagons should also be investigated.

## MANAGEMENT TECHNIQUES AND CONTROLS

### Departmental Administration

Present reports, designed to show operating results, completely fail to disclose effectiveness of performance on the part of divisions or units. Furthermore, present methods and procedures require much revision to present more reliable information on productive operations. For example, detailed maintenance costs of individual motor vehicles are entirely lacking. Consequently, it is impossible to measure this cost against maintenance standards. Work load standards are urgently needed.

**Division of Payrolls, Retirement, and Pensions**—There is a real need for revision of payroll preparation within this unit. The payroll distribution should indicate the functional distribution of labor cost in addition to the present code and line budget classifications. At present it is impossible to tell, for example, whether a B or C Sanitation man is working as a loader, sweeper, timekeeper, or clerk, or to appraise the distribution of labor by job assignments, location, or occupational titles.

With the exception of payroll sheets that show gross earnings, deductions, and net pay, all record preparation is handwritten. Except in the main office, the Department uses no time clocks and attendance is shown by checking off a "Foreman's Daily Work Report" at the various work points, compiled from the subforeman's attendance records. The system is highly repetitive and time-consuming. It can be simplified by adopting time clocks and stamped cards.

The several payroll forms should be consolidated into one sheet. Only one basis for computing daily, weekly, and semimonthly earnings should be used—a method followed by the Federal government.

**Division of Accounts, Audits, and Expense Budgets**—The budgets prepared by this division are little more than the projection of the ensuing year's requirements, based on expenditures made in the prior year. The two outstanding weaknesses in this type of comparison are: (1) a comparison between totals having different details is no valid com-



parison at all; (2) the prior year's record of performance may not represent satisfactory operations. Pending adoption of a performance budget, City-wide budgetary requests within the Department should be presented in accordance with the accepted practices of functional budgetary control.

Requisitioning of materials and supplies from the Department of Purchase Stock Room cannot be fully controlled because deliveries must frequently be accepted beyond immediate needs, or back orders are taken in long after the requested date. Back ordering of materials should be forbidden, as should issuing large bulk quantities of materials to Sanitation bureaus. Loose-leaf typed entry sheets should be used for the budget ledgers. Much of the data now being recorded is superfluous.

**Division of Stores and Supplies—**Although the buying by the division is satisfactory, the physical control of the stock rooms is poorly handled, with a need for more competent storekeepers apparent. The report (M-11) prepared by the Division of Analysis of the Bureau of the Budget covers the improvements that should be made.

**Division of Functional Expenses—**Reports by this division fall far short of their objectives. Direct costs of operations are not itemized so that controllable expense items will stand out. Too much distribution is done on an arbitrary percentage basis. A complete reorganization of present procedures is urgently needed to provide proper operating control.

**Sweeping and Cleaning Functional Expense Quarterly Report—**Although the totals of indirect, redistributed costs are shown on the Quarterly Reports by districts, these costs are neither accurate nor informative, as they are merely the

statement of the general average of each borough total, applied to each district. This is time consuming and meaningless. Because many such reported costs are the result of distributions of indirect general overhead items and represent both controllable and non-controllable expenses, the final costs have no value for cost control purposes.

**Collection Functional Expense Quarterly Report—**To determine the unit cost per ton of refuse collected, the total collections from the respective districts and boroughs are added to the "Incinerator Residue" collected to arrive at a "Total Material Collected" figure. This results in misleading unit costs. Although it is physically necessary to handle a portion of the same material twice, the operation of collecting the residue is not a true "Collection" cost but rather a portion of the cost of final disposal.

**Marine Loading Stations, Unloading Plants, and Destructor Plants Reports—**Figures shown as "Total Operation" costs do not show actual costs and, consequently, are not reliable for the purpose of cost control at the management level.

Unit costs are computed on a "per ton disposed" basis for the marine method of disposal and a "per ton received" basis for the incineration method of disposal. Although there are wide variations, particularly in the unit costs of incineration among the several plants, no comment is made on the reports as to the reasons therefor. Since these reports are of general departmental interest, a commentary analyzing the reasons for differences shown should be included.

**Land Fills Report—**This report in reality gives the cost of land fills supplied by trucks only; the cost of marine fills is shown on the report of marine



method, under the heading "Marine Unloading—Fresh Kills."

**Expense per Ton of Final Disposition Report (by Borough and Disposal Method)**

—This shows the summary costs by boroughs of "Marine Unloading Method," "Incinerators," "Land Fills" (which are really "Truck Fills"), "Sales and Contract," and the "Grand Total." The cost of disposition does not include the cost of transporting the incinerator residue from the incinerator to the point of disposal, whether it be to a marine loading point or to a land-fill operation. This is hidden in collection costs as assembled elsewhere.

**Report Changes**

For functional control, functional expense reports which present the cost of operations most certainly should be furnished more often than every three months. Such cost statistics pertaining to the direct costs of operation, exclusive of the distribution of indirect and administrative expenses, should be rendered at least monthly, and should be made available to management within five to ten days after the end of the month. The present large, unwieldy sheets should be reduced in size from 18" x 36" to sheets 11" deep by 8½" or 17" wide, according to the columnar requirements. Such reports should be bound in sections, corresponding to the four functions of the Department, namely, Sweeping and Cleaning, Collection, Waste Disposal, and Snow Removal operations. There should also be a summary sheet, setting forth the total cost of operation for the entire Department.

A complete revision of the present method of preparation of statistics, together with the reports rendered by this division, is therefore considered

necessary in order that accurate and reliable costs be made available to executives throughout the Department for operating control purposes. Specific recommendations follow:

(1) Present accounting procedures should be changed so that the classifications of maintenance costs now shown as indirect costs of operations can be accumulated and reported as direct charges to the several functions.

(2) The present accounting procedures, which charge the several operating divisions with the maintenance costs of rolling stock on a percentage basis, should be discontinued and replaced by a system of accounting which would allocate the direct costs of labor, parts, and supplies of both major and minor repair jobs to each piece of equipment. Inasmuch as repair orders, now used in the Central Motor Repair Shop, itemize the extent of work performed, all that remains to be done is to process these through the main office accounting department.

(3) The facilities of the I.B.M. equipment should be used to prepare an accurate distribution to the respective pieces of equipment, and in turn these figures should be posted to a permanent record to give the running cost of maintenance of each truck, automobile, or other equipment.

In order to decrease the size of the present reports and, at the same time, segregate the data to show direct controllable costs for management purposes, summary reports should be prepared in a form similar to that of Schedule — on p. —

The district details of the five elements of direct costs of operation shown on Schedule A should be presented as supporting schedules similar to that of Schedule A-1 on p. —

The form required for the Collection costs, Schedule A-2, would be similar, except that the Sweeping and Cleaning heading would be replaced by Operating



SUMMARY OF FUNCTIONAL EXPENSE  
BUREAU OF STREET CLEANING AND WASTE COLLECTION  
FOR THE MONTH OF (OR PERIOD ENDED)

Schedule A

	Manhattan	Bronx	Brooklyn	Queens	Richmond	Total
Direct Costs:						
Direct Labor—Sweeping and Flushing						
Direct Charges to Section Stations						
Garages—Direct Labor, Materials and Supplies						
Maintenance of Rolling Stock						
Functional Administration and Supervision	...	...	...	...	...	...
Total Direct Cost of Operation	...	...	...	...	...	...
Square Yards Cleaned	...	...	...	...	...	...
Cost per Square Yard Cleaned	...	...	...	...	...	...
Indirect Costs:						
General Administration						
Administration of the Bureau of Motor Equipment						
Administration of the Bureau of Plant Maintenance	...	...	...	...	...	...
Total Indirect Expense	...	...	...	...	...	...
Total Expenses	...	...	...	...	...	...

and Loading of Trucks. Other Schedules A-3, A-4, etc., would also require a change in headings to properly designate the specific functions, but all would be of the same general construction.

In addition to the Summaries of Borough Costs and supporting district schedules, a report which would summarize the functional cost and the total cost of operation for the Department of Sanitation should accompany the periodic reports.

Measures of Performance

The Department at present observes certain applications of performance standards. However, examination shows that figures purporting to indicate area cleaned, tons of refuse collected, amount of snow removed, etc., are distorted and subject to error.

Before realistic comparisons of performance can be made, valid standards must be set up. In the field of Street Cleaning, there must be ascertained:

(1) Square yards of street (or curb-miles) to be cleaned.

(2) Square yards of street actually cleaned.

(3) Tons of litter swept up (a) by hand brooms and (b) by mechanical brooms.

(4) Square yards (or curb-miles) that can be cleaned (a) by hand brooms and (b) by mechanical brooms.

(5) Density of litter per curb-mile, or thousand square yards.

(6) Unit cost per ton swept up by each of the two methods according to density per curb-mile.

(7) Unit cost per curb-mile or thousand square yards, by each of the two methods.

In the field of Refuse Collection data must be had as to:

(1) Route-miles traveled by collection crew or truck.

(2) Tons of material collected by crew or truck.

(3) Tons of material collected per route-mile.

(4) Density of collection per route-mile.

(5) Unit cost per ton collected per route-mile according to density per route-mile.



SCHEDULE OF DIRECT COST OF STREET CLEANING  
BUREAU OF STREET CLEANING AND WASTE COLLECTION  
BOROUGH OF MANHATTAN  
FOR THE MONTH OF (OR PERIOD ENDED)

District Number	Sweeping & Cleaning Amount	Section Stations Amount	Garages Amount	Rolling Stock Amount	Functional Adminis- tration Amount	Total Direct Cost Amount
1						
—						
—						
—						
15	...	...	...	...	...	...
Total	...	...	...	...	...	...
Sq. Yd. Cleaned	...	...	...	...	...	...
Cost per Sq. Yd. Cleaned	...	...	...	...	...	...

Number of Square Yards of Streets in Manhattan — 00 sq. yds.

All of these data may vary between districts due to density of population, density of collected volume by reason of different social habits, and similar factors. Hence in comparing one district with another, or one period of performance with another, care must be taken to reconcile the difference either by explanation or through empirical allowances that will provide valid comparison on a realistic basis.

Concerning operation of incinerators, it is well understood that cubic yard measurement of material is good only for engineering calculations applicable to fill operations. At best, cubic yardage varies widely due to methods of transport, number of loose cartons or tin cans in the refuse, etc., whereas tonnage is more constant over a period of time. Also, tonnage may be ascertained by employing scales, whereas cubic yardage is obtainable only by estimating piled material or truck content. Accordingly, there must be ascertained:

(1) Weight of material delivered to incinerator, less the weight of that

portion salvaged prior to charging furnaces.

(2) Cost per ton of incineration process, including direct labor used in the operation, maintenance expense of the furnaces, and general overhead.

Sanitation Operations in Other Cities

Information was sought concerning practices as to methods followed, equipment applied, enabling statutes, cost of service, and personnel employed in other cities. The following were visited: Cincinnati, Chicago, Milwaukee, Detroit, Cleveland, Philadelphia, Baltimore, Washington, and Boston.

The frequency of collection varies widely. Chicago and Milwaukee collect once a week the year round; Baltimore, twice a week; Detroit, weekly for garbage and every two weeks for non-combustible refuse. Washington gives twice-a-week garbage collection and once-a-week for all other refuse. Nowhere is collection frequency comparable to New York's.

Baltimore and Los Angeles handle all waste from domestic or commercial



sources, without discrimination. The other cities leave commercial waste collection almost entirely to private contractors.

No city even approximates the use of incineration in the City of New York. Chicago hauls all waste of any kind to open fills. Detroit and Los Angeles place ashes and nonburnable material in open fills. Baltimore uses open and sanitary fills for ashes and nonburnable rubbish, and sanitary fills with an incinerator for garbage. Boston's garbage is entirely sold for hog-feeding, the rest of refuse going to sanitary fills. Detroit and Milwaukee use fills with a small amount of incineration for garbage. Los Angeles incinerates mixed rubbish, sells its garbage and its salvage from non-combustible material. Washington sells its garbage to "licensed Maryland hog-feeding" and has one sanitary fill for the rest of refuse. Chicago deposits on privately owned land, as does Boston. In Cincinnati, all dump sites are city owned. The other cities utilize both types of disposal points, depending on distance from collection areas.

Washington's newly opened transfer station is worthy of particular mention. This is a modern dust-proof building in which the street collection trucks dump their loads either into farmers' trucks, if garbage, or into large capacity semi-trailers, if rubbish. The collection truck then returns to its normal route while the semi-trailer makes the distant haul to disposal point. The advantage in this arrangement arises from the

ability to minimize lost productive collection time and to have relatively few vehicles passing to and fro on through-highways.

With regard to street cleaning, Baltimore, Washington, and Cincinnati do a good job using flushers only, followed by gang patrols (three or four broom men with a truck) who assemble the debris and load it for disposal. Boston has very few hand sweepers. It uses power brooms operating extensively at night. These pass through the business district once or more each 24 hours and through residential districts weekly. Cleveland and Detroit use end-loaders to load open-type trucks with swept-up debris, eliminating hand shoveling. In Washington, leaf sweepers have been successfully adopted to handle the fallen leaves from the enormous number of shade trees.

Little equipment was observed with which New York's Sanitation Department is not already familiar.

It would be difficult, if not impossible, to find any city with experience comparable to that of New York in the matter of incineration. This metropolis has led the way, not only in development but in installation, so that other cities await its verdict as to the best practice and design.

Any attempt to compile cost figures from the various cities has proved impractical. This is due to the widely divergent practices followed and to the various organizational arrangements providing financial control.

## LONG-TERM PLANS

### Departmental Activities

Between 1937 and 1948 it was the City's policy to utilize refuse and waste

for development of marginal land into park areas and landing fields. The approaching exhaustion of suitable fill



sites caused policy to swing once more toward total incineration. Under date of August 19, 1948, the Board of Estimate passed a resolution, declaring as a matter of policy that burnable refuse should be disposed of by incineration, as follows:

That immediate steps be taken to increase the efficiency of existing incinerators and to enforce the law relative to the separation of combustible and noncombustible material; that the program of repairs, rehabilitation, expansion and new construction of incinerators be accelerated, with the end in view of having sufficient incinerators in operation by the end of 1951 to enable the Department of Sanitation to terminate all dumping of garbage and combustible material in the land fills.

This resolution thus became a directive for the Department's administration and provided an objective for short-term attainment. Without challenging the wisdom of formulating this policy, it should be noted that the program thus indicated cannot be met as scheduled. It is probable that the national emergency lately arisen will cause much further delay.

### **Refuse Disposal in New York City**

The report of the Director of Engineering, "Waste Disposal Facilities Program," December, 1950, concludes that separation of combustible from noncombustible material is neither practical nor economical. Concurrence is found with this (but not entirely for the reasons given therein).

The Department estimates that incineration requirements by 1970 will be 12,600 tons per summer working day. However, this is based on estimates of population for New York City of 8,375,000 in 1960 and 8,550,000 in 1970. Based on population estimates of the Mayor's Committee on Management

Survey of 8,257,000 in 1960 and 8,152,000 in 1970, the requirements would be 11,800 tons per summer working day.\*

In general, the Department's long-term programing gives little attention to other factors such as changing standards of living, changes in packaging of consumer goods, greater use of disposal facilities built into dwellings, etc.; and also it places too much emphasis on theoretical population increases.

### **Full Incineration Program**

Operation of a full incineration program in 1950 would have reduced the tonnage of refuse hauled to fills by 37 percent and the volume of such material, measured in cubic yards, by 69 percent over what actually occurred. Removing ashes from consideration (since under any program they would go to the fill directly), the comparison is still more impressive. The 1950 limited incinerator capacity required hauling to the fills material other than ashes weighing 2,752,937 tons, or 15,053,443 cu. yds. A full incineration program would have lowered this to 1,024,920 tons, or 2,049,840 cu. yds., a reduction of 63 percent measured in tonnage and of 87 percent measured in cubic yardage.

In the foregoing, the effect of the sale of steam ashes is ignored. The extent to which sales have been made in the past is insignificant so far as reducing the volume of material to be disposed; only 56,578 tons were sold in 1950.

If the announced policy of the Board of Estimate is to be implemented, the

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\*ED. NOTE: Somewhat lower figures are given in the Trundle Report as submitted. However, Trundle engineers in conference agreed to upward revision because of revisions in the Mayor's Committee population estimates, those mentioned here being higher than preliminary figures given by the Committee to the engineers.



Department must provide, based on its figures, incinerator facilities to handle 3,710,250 tons of garbage and rubbish per year, and a fill area to receive annual incinerator residue of 1,115,955 tons and 1,376,000 tons of ashes, or a total fill disposal of 2,491,955 tons, approximating 5,671,900 cu. yds.

The incineration facilities in operation have a rated capacity of 5,550 tons per day, or an actual peak performance probably not exceeding 5,000 tons per day, at present. This is found in 45 furnaces in 11 locations. As already stated, the expansion program is planned to provide a peak load capacity of 12,600 tons per day, premised upon 320 work-days a year or 26.6 work-days a month, to handle the yearly volume of 3,710,250 tons anticipated in 1970. This is to be accomplished by modernization or by enlarging the present 10 units, scrapping 1 obsolete unit, and adding 6 additional facilities.

An 11,800-ton daily maximum capacity is a much more reasonable estimate upon which to evaluate the size of the long-range incinerator program. To this extent, the Department's figures would have to be modified in the detailed development of actual incinerator construction.

**Cost of Incinerators**—The cost of design and construction to complete the program is apparently based upon an average unit figure per nominal ton of facility capacity. This figure is \$5,000 per ton for a new plant; reduced for enlarging a present plant, using present structure; and further reduced for rehabilitation of a present plant without increasing its capacity. The program report of the Director of Engineering gives no explanation, however, as to application of a unit cost-per-ton figure which would account for the

new Bronx plant projected as costing \$6 million for 900 tons, as compared to the new Richmond plant costing \$3 million for 300 tons.

Judging from comparable cost figures obtained in other cities, these allowances per ton unit appear very high. Washington, Philadelphia, and Cleveland sanitation department experts informed this survey that, in their considered opinion, an allowance of \$3,500 per nominal ton capacity is more in line with present day costs for such facilities. Design competition should be resorted to.

**Incinerator Design and Operating Expense**—The program contemplates the complete mechanization of all units. This applies primarily to mechanically stoked furnaces as compared to manually stoked units. While the improvement unquestionably results in a higher capital expenditure, it is justified by improved operating results.

Possibly the most tangible benefit arises from reduced direct labor cost. The Zerega Avenue (Bronx) and the West 215th Street (Manhattan) incinerators are nearly identical plants, equipped with manually stoked furnaces. When operating at normal capacity, and with full charges available, they present a cost of \$1.60 per ton for direct labor. The Betts Avenue incinerator is equipped with mechanically stoked furnaces and when all are in operation the direct labor cost is expected to be \$1.06 per ton. The Gansevoort installation when completed should achieve a cost of \$0.91 per ton, projecting the unit cost figures achieved at Betts Avenue. It may be possible to reduce this last figure further by elimination of trucking of residue.

Imperative in any modern facility is a dust-arresting means to minimize



escape of flyash. This dust arresting constitutes a complex engineering problem because of the variable quality of the material being charged, which causes quick changes in flue gas temperatures and alters the density of the stack discharge. As a consequence, what at one moment seems to be a reasonably clear atmosphere around the incinerator site will change to one full of fine odorous dust. Those responsible for design of future incinerators in New York City will find it necessary to provide a solution to this nuisance factor, if public antipathy to a proposed site is to be overcome.

According to the experience of American municipalities, the useful life of an incinerator is shorter than is often realized. It was reported by Dr. Rolf Eliassen before an American Society of Civil Engineers meeting in April, 1949, that of 98 installations taken out of service in the past 10 years, 71 had been used 15 years or more, 39 for 20 years or more, and 9 for 30 years or more. Thus, the Department would be well advised in estimating that the capital investment in incinerator equipment (furnaces, machinery, etc.) should be depreciated in not more than 20 years, whereas the building structure alone may reasonably be depreciated on a 40-year basis.

**Incinerator Sites**—No exact locations have been proposed for the new incinerator facilities. In the report by the Director of Engineering, sites have been suggested, selected by "center-of-gravity" method. This shows a selected location that would provide a minimum collection-haulage distance coupled with maximum volume to be picked up. Other factors have not been taken into account. For instance, the new Richmond Incinerator is suggested to be located at

Brielle Avenue and Graves Street, the center point of the Borough. As this is adjacent to Sea View Hospital, objection may be anticipated. Since only approximate sites for new plants are mentioned, it may be presumed that final locations will reflect direct highways, parking availability, and ease of access. The Department's unit refuse-hauling cost is given as \$0.30 per ton mile. Hence, the distance that collection trucks must travel to reach an incinerator and the haul necessary to carry away the refuse must be given very careful consideration.

The Director's report omits any discussion as to the advisability of continuing operations or increasing capacity of present locations. It must be presumed that, before appropriation is made for a particular project, an engineering study will be made to determine, for instance, whether merging two old plants, as in Manhattan, into an entirely new unit in a more acceptable location might be advisable. Such a survey might indicate both an economic advantage, reflected in cost of operation, and full acceptance by the neighborhood.

Although the Department's report finds waterfront locations undesirable, the future limitation of the City to marine fills makes it evident that waterfront sites for incinerators are decidedly preferable to interior locations.

## Other Facilities

**Waterfront Stations**—At this time there are eight waterfront stations in use, with one under construction. Their combined receiving capacity is ample to handle the current volume of tonnage disposed of by marine transport, indicating a surplus capacity in the future. The present stations are poorly located



to provide minimum hauling cost for the trucks delivering to them. A single waterfront station can receive the residue from three incinerators. Obviously, its site should be chosen to service them economically. At the same time, collected ashes by-pass the incinerators, and the volume of these ashes, heaviest in winter months, must be kept in mind.

The Department's long-range program should entail no increase of marine loading facilities, but instead should relocate the present stations to maximum advantage. In so doing, it is expected that the new plants will be constructed so as to be fully enclosed, with means for dust suppression and for spraying of loaded barges.

Replacement of the present facilities and modernization of stations to be continued in use amount to a grand total of \$12.1 million, but no information is supplied that permits comment as to justification of construction expense.

**Refuse Receiving Areas or Fills**—Attainment of a full incineration program will reduce the cubic yardage of material sent to fills by approximately 70 per cent. Even without this reduction, present land fills will not be exhausted for from four to seven years, at the present disposal rate.

Full incineration of garbage and rubbish may be expected to treble the life of existing fills. Fresh Kills, an area approximating 2,600 acres, which now receives 8,900,000 cu. yds. (more than half of the total refuse and ashes collected in all New York), has an estimated life of 10 years. With full incineration it would last until 1981, if it received only residue and ashes at an annual rate of 2,968,900 cu. yds. However, the plans of the Department contemplate that, once the full incineration program is in effect, land fills, as con-

trusted to marine-supplied fills, will be discontinued. Specifically this means that Fresh Kills would then receive the City's entire residue and all ash disposal, computed as approximating 5,662,000 cu. yd., which would then give it an estimated life of 16 to 20 years.

In the past, when the Department sought to utilize a given site for refuse disposal, the proposal aroused strong opposition in the neighborhood, because the material had a large component of garbage and loose paper. Under full incineration the deposit would be reduced to a solid residue and ashes. If properly covered as deposited, the operation should prove much more acceptable.

**Marine Hauling Operations**—At this writing, the Department has 3 tugs and 40 barges available for their marine hauling operation. It seems apparent this is an ample amount of equipment.

**Garages**—The Department's program calls for housing all collection and street cleaning equipment in modern structures, strategically located. Some 21 new buildings are contemplated, to cost possibly \$30 million. The over-all desirability of this development is fully concurred with.

New garage facilities should embody the following provisions, as previously recommended:

(a) The quarters for personnel should accommodate all supervision and sanitation men employed in the district, meaning that section stations should be eliminated entirely from the departmental organization.

(b) Buildings should provide storage space for vehicles currently assigned but they should eliminate "dead" storage. Vehicles out of use for the season should be kept in more remote and less expensive sites.

(c) The servicing of vehicles at garages should be limited to fueling, lubrication, and the simplest repairs.



All repairs requiring the services of mechanics should be moved to a central automotive repair shop.

(d) The construction and design of new garages should provide only undercover parking for vehicles. This part of the structure should be of the openside type, eliminating enclosing walls and windows, which are an unnecessary protective refinement for heavy all-weather vehicles.

**Transfer Stations**—Districts in Manhattan and Bronx and the westerly districts of Brooklyn and Queens are within reasonably short hauling distances from the waterfront and proposed incinerator locations. There remains the problem of handling material collected in the interior districts of Queens and Brooklyn.

The major item in operation cost for refuse collection and street cleaning, as for residue disposal, is found in transportation charges. Since the distances to be traveled are fixed, the most obvious solution would seem to be

to increase the size of unit pay load.

The city of Washington affords an excellent example of a transfer-station installation. This is a totally enclosed building with two levels reached by ramps. The collection trucks drive in to the top level and dump their loads into hopper bins which in turn empty into large-capacity, specially designed, semi-trailer tractor trucks on the lower level. These tractor trucks hold approximately the contents of five collection trucks and when filled make the long haul to the ultimate disposal point. In the case of New York, such a transfer station would be the South Shore Incinerator or possibly the Flushing Incinerator, whichever was indicated to receive the load at the time of dispatch. Another good application of this transfer-station principle might be found in Richmond. The Department should investigate fully the possibility of applying this transfer-station principle.

## SUPPLEMENTARY REPORT

### Man-Hour Utilization

The Bureau of Fiscal Service reports for the quarter ended June 30, 1950, the following payroll figures covering the cost of sweeping operations: Hand Sweeping, \$1,394,892; Machine Sweeping, \$13,130. These figures do not represent the proportion of streets cleaned by either method. Obviously, from the payroll viewpoint, too little machine sweeping is done in proportion to hand sweeping as indicated by the 100 to 1 ratio above. Mechanical brooms can never, of course, entirely replace manual broom and push carts, because of inaccessible locations, traffic congestion, and

similar factors. However, a great deal more machine sweeping can be done.

**Centralizing Section Stations**—It is understood that the Department has already acted in part on the recommendation to eliminate section headquarters stations. On the basis of eliminating 30 section stations immediately susceptible to such treatment without loss of operating efficiency, it has announced a potential saving of \$56,398 per year. It is the engineers' opinion that, when the idea is fully carried out, at least half of the 240-odd section stations can be eliminated with a saving in annual expense of \$250,000.



Consolidating the section control organization and allowing a single field foreman to direct a larger work force, both in number and distribution, should permit the elimination of approximately 150 section foremen. Estimating the annual pay of this grade as \$3,800, the saving would be \$570,000.\*

### Frequency of Collections

In this phase of the study, each of the Department's operational districts was visited and observed. Pertinent statistical information was solicited and received first from the central headquarters, then confirmed as to authenticity at the borough or district office as seemed desirable.

Paralleling this, some areas were visited several times to determine any special characteristics that might affect frequency of collections in that type of locality.

**Volume of Refuse**—An analysis of the statistical data presented by the Division of Functional Expense shows that the tons of refuse, including ashes, collected in the year ended December, 1950, as compared with the year ended December, 1949, declined sharply. Every sanitation district in the City, except two, also showed a decline. In those showing an increase, the rise in collection volume was insignificant.

The declining volume in tonnage to be collected emphasizes that present frequency of collections is considered adequate over the City as a whole. No factual justification was found for yielding to the demand from certain quarters that all districts now receiving triweekly collections should be given daily collections, or even that all sec-

tions of a given district should be uniformly treated.

Within those districts now receiving triweekly collections, the Department has provided daily collection along built-up congested avenues, where experience has demonstrated the local need for such service. No sanitation district in New York receives, as a matter of routine, less than three collections per week.

The project staff believes that certain exceptions are very necessary when dealing with operations as large and complex as those found in the Department. Thus, it was noted that the Bedford-Stuyvesant housing project, District 43, now receiving triweekly collections, is very badly served. Conditions are most unwholesome and unsanitary in this particular locality and should be corrected by providing daily collections.

**Analysis of Collection Frequency**—At first sight it appears from analysis that Borough-wise the Bronx is receiving unnecessary daily service when compared with Brooklyn, because of the former's much smaller tonnage per curb-mile. However, breakdown of these Boroughs by districts indicates that, although possibly two districts in the Bronx may be receiving unnecessary daily collection, most of the districts are comparable to Manhattan, where daily collections are universally agreed as being essential. The low Borough-average is caused in two districts which have a low population density and a large curb-mileage, with triweekly collection.

On the other hand, if tonnage figures for the Bronx and Manhattan are acceptable criteria, then Brooklyn has not been receiving daily collection where it should. This is borne out by the fact

\*ED. NOTE: The figure, \$270,000, appearing in the multilith copy of the full Report is a computational error, subsequently corrected by the engineers.



that Brooklyn has a much lower public acceptance of the service given than either Manhattan or the Bronx, as was indicated in the opinion survey referred to in the main Report.

Various reasons have been given for Borough disparities, such as the fact that Queens, which is a newer Borough than Brooklyn, has been built largely from people drawn from areas where daily collection was customary, so that in their new location they brought pressure for equally frequent service. Since such objections to the services rendered are based on non-operational factors, they are naturally not susceptible to resolution by strictly engineering or statistical methods. A decision as to frequency of collection will have to depend largely upon a prior decision as to what level of performance may be considered as standard. Thus, taking into consideration the expression of public opinion previously indicated, responsible officials could decide that the general level in Brooklyn was adequate by making feasible a reduction in other areas of similar characteristics.

#### **Potential Savings on Reduced Frequency**

—It should be understood that savings to be realized from a decrease in the frequency of service can be derived only from a reduction in the percentage of the working day devoted to truck travel between collection points. The quantity of material to be collected will be the same regardless of frequency. The constant time allowances, such as fatigue time, roll call time, etc., which are allowed the truck crew, remain the same. Likewise, the hauling time from the point of last pickup to places for dumping is not affected by a change. Finally, the minutes of loading time per pound at each collection stop is not

affected, as doubling the weight doubles the minutes of loading time. *Only the minutes of travel time between collection points is affected by a change in the frequency of collection.*

The inquiry was developed by selecting three sanitation districts—Nos. 25, 35, and 65—and making detailed computations as to the savings that would accrue from reduced frequency of collection.

The total cost of collection for the five Boroughs as given by the Bureau of Fiscal Services for the quarter ended March 31, 1951, was \$7,388,944 to collect 1,090,556 tons, giving a unit cost of \$6.77 per ton. In this period, 56.3 percent of the tonnage was collected by trucks giving daily service and 43.7 percent by trucks giving triweekly service. Applying the potential savings of \$0.096 per ton derived from District 25 to the proportion of the tonnage represented by the daily collection service, and applying the \$0.69 per ton derived from District 35 to the proportion of tonnage represented by the triweekly service, would give an over-all theoretical quarterly saving of \$387,757 (or \$1,551,028 per year), should all triweekly service areas be reduced to once-a-week service and all daily service areas (i.e., six days a week) be reduced to five-days-a-week service. The actual annual savings would be less than this theoretical projection due to the fact that the first quarter represents the maximum tonnage on a seasonal basis. In other words, the City's collection expense would have been reduced by 5 percent for the quarter period.

It should be noted that no such comprehensive cut in collection service is practical. If such reduction in frequency of collection is undertaken to any considerable extent, other factors would



enter that would offset much of the savings indicated.

It is emphasized that frequency of collection rests on three fundamental factors: (1) the total amount of material to be removed; (2) the rapidity with which it accumulates; and (3) the ability of the householder to store it while awaiting removal. These factors vary in local as well as Borough or district areas. They change from day to day, from season to season, as well as from one year to the next. Mondays and Tuesdays are the heaviest days of the week. Total tonnage is lowest in the third quarter and highest in the first quarter of the year, as computed by Boroughs but not necessarily in every component district of the Borough. Hence, application of a change in frequency to handle the highly variable load can be based only upon detailed and immediate examination of local factors.

Leaving out consideration of health and good housekeeping, less frequent collections would only build up peak tonnages to be handled when the refuse was finally picked up. Besides this element, the congestion at the disposal points (incinerators) would increase, meaning that refuse would have to be stored in great amounts at the incinerators while awaiting combustion disposal. In short, the best condition is obtained when the refuse moves continuously and smoothly from its generation to its ultimate disposal with the least possible storing or handling. Only when the volume of refuse decreases materially in any particular district or section is it feasible to eliminate collection.

The weight per truckload figures compiled by the Department were examined. They give conclusive evidence

that the trucks are being loaded as fully as is practical. This is verified by the fact that one cubic yard of rubbish on the average weighs 400 pounds, or one-fifth of a ton. Hence, truckload weights of 2.53 tons to 3.62 tons would mean loads of 13 to 18 cu. yd., which is 85 percent of the rated capacity of the majority of the trucks (15 to 21 cu. yd.). The impossibility of securing complete compaction with noncompactor type trucks, which comprise 50 percent of the fleet, makes 85 percent an optimum loading ratio.

**Formulation for Collection Frequency—**Determination of collection frequencies cannot be reduced to a single, simple formula. As mentioned previously, the three most important ones are: (1) amount of refuse to be removed; (2) rate of refuse accumulation; and (3) storage capacity of householder.

Other important factors are truck capacities, distances to be traveled, type of refuse, and type of area.

All these factors are related to one another and vary according to the basic conditions that exist in each district or collection area. These relationships are expressed in four simple formulas:

$$\text{Formula A} \quad W = \frac{P(480 - c - nd - g)}{t}$$

This formula establishes the optimum use of a truck for a given set of conditions, where

$W$  = weight per day, in pounds.

$P$  = weight of average full load, in pounds.

$t$  = minutes of stop, plus travel time to load  $P$  pounds.

480 = 8-hour day, exclusive of lunch hour.

$c$  = constant time allowance in full day — in minutes. This factor includes fatigue rest-time and is recognized in the Department as 80 minutes.

$n$  = number of truck loads in day, minus last load of day (usually a partial load).



- d = average time allowance, round trip, from collection route to deposit point.
- g = average time allowance from collection point to garage or directly from deposit point to garage.

Formula B 
$$X = \frac{T_y}{PnK}$$

This formula establishes the truck days required for collection, where

- X = truck days required.
- T<sub>y</sub> = tons per year to be collected.
- P = tons per truck load.
- n = loads per day per truck.
- K = number of working days.

Formula C 
$$Y = \frac{WpF}{d}$$

This formula establishes the amount of refuse accumulated for an average family unit, where

- Y = pounds of refuse per day.
- Wp = pounds of refuse per year per person.
- F = number of persons in family unit.
- d = number of days per year.
- (Family unit is considered to be 50 ft. of curb.)

Formula D 
$$Z = \frac{Y}{W_c}$$

This formula establishes the amount of storage capacity the family unit must provide for daily collection frequency, where

- Z = number of 20 gal. cans.
- Y = pounds of refuse per day.
- W<sub>c</sub> = pounds of refuse in a 20 gal. can.

For triweekly collection:

$$Z = \frac{2Y}{W_c}$$

For biweekly collection:

$$Z = \frac{3Y}{W_c}$$

These formulas point out some very basic considerations. Formula A, for instance, has established to the satisfaction of the bureau an average load of 3.0 tons per truck and an average haul of 3 loads per truck per day. These values, when used in Formula B, dem-

onstrate that for a given district and volume the number of truck-days required remains constant regardless of frequency. For example, if two areas receiving daily collection are placed on an every other day collection basis, the number of trucks in each area will be doubled, but truckloads in the two areas will be the same as before, no matter what frequency of collection is used. Provided the trucks are loaded properly, the only saving is in travel time. This theoretically could be in the order of magnitude of 5 percent by a reduction of all triweekly service to once a week, and all six days per week service to five days per week.

*The limiting factor (theoretically speaking) will be the amount of refuse which the City is willing to have accumulate along the curb pending arrival of a truck.*

Formula C determines the density of collection along the collection route and, with Formula D, establishes the theoretical frequency required to maintain the required degree of service. Obviously, the factor values used in the formulas will vary by type of area, equipment, amount of refuse, etc. The Department should establish the necessary measurement standards, as recommended in Chapter VIII of the main Report, to implement these determinations more completely.

Thereafter, the Department must watch certain "barometers" to be sure that conditions have not warranted a change in measurement standards. This means:

- (1) A constant check should be kept on the average weight per truck by type of vehicle to be sure that frequency is not so great as to cause trucks to return only partially loaded.
- (2) The average number of minutes for loading and travel time



should be watched so that the situation does not arise where the frequency is too high, resulting in sanitation men working a short day because there is nothing left in the area to collect.

(3) Conversely, to guard against the frequency being too low, there must be constant inspection of the area each day to see that no accumulation of refuse is uncollected prior to the regular quitting time. In this connection, too many calls for help, in the form of an extra truck to be sent out, would be a danger signal.

(4) In connection with all of the above, there should also be periodic checking of public opinion, on a relatively simple but meaningful basis,

to make sure that the Department is fulfilling its public obligations.

From a management standpoint, effective administration will not be advanced solely by introducing formulas. Strengthening management and supervision, as suggested in the Report, is also a major requirement. With adequate management supervision, the Department should be continuously engaged in reviewing the problem of frequency and should from time to time shift the practice, not primarily for entire districts, but for specific blocks and streets, after due notice and education of the local public.\*

## CHECKLIST OF MAJOR FINDINGS

### Bureau of Street Cleaning and Waste Collection

(1) Methods and practices applicable City-wide are not determined at top level but are left to district or sectional supervisors to carry out as they see fit. Central bureau headquarters should fully control not only the policies but also the activities of all operating units.

(2) Field supervision is based upon section units which are too numerous and small to take full advantage of efficient administration. These section stations should be abolished and the district garage established as operational headquarters and reporting point for all personnel of the district. (Possible annual savings, \$250,000; the Department has already acted in part to the extent of \$56,000 in savings.)

(3) Field supervision of working crews is carried on by men on foot. Motorizing all supervision (with certain

exceptions in highly congested areas) will cut down the number of supervisors required and will increase their effectiveness. (Potential saving, \$570,000.)

\*ED. NOTE: The Mayor's Committee had requested additional information from the consultants on Stores and on Yardsticks of Performance. However, in their letter transmitting their Supplementary Report, the consultants stated:

"We have omitted any further comment on Stores, for the reason that this operation is under the Department of Purchases, and other than pointing out the deficiencies that affect the operation of the Department of Sanitation, we do not believe it is within our province to make the detail installation recommendations that would be necessary. The report (M-11) submitted by the Bureau of the Budget amply covers the improvements that should be made.

"With regard to Yardsticks of Performance, we are not elaborating on this subject because: (a) further details on forms and procedures would involve an installation project which was beyond the scope of our study—the pattern to be followed for such a project; and (b) until the Department of Sanitation collects the type of data required and suggested in the Report, nothing can be accomplished towards this end. We believe the Department is fully capable of organizing this project with its own staff, if it is willing to accept the pattern that has been recommended."



(4) Frequency of collection service—daily in Manhattan and populous sections of Brooklyn, the Bronx, and Queens, and not less than three times weekly elsewhere — is entirely adequate. As a matter of public policy, it should not be changed.\*

(5) Collection of combustible refuse, garbage and rubbish, separate from the noncombustible, following the precedent of certain other cities, would be uneconomical and inexpedient for New York.

(6) Use of mechanical brooms for street cleaning has not been fully exploited because of the hampering effect of parked cars. Parking on opposite sides of the street on alternate days should be extended from the test districts as soon as possible, and a much greater percentage of sweeping should be handled mechanically.

(7) Distribution of mobile equipment has not adequately followed the need for such equipment. The bureau should make a thorough survey of area requirements and make proper reassignments.

(8) Relay trucks for rubbish collection have not been used fully enough.

### **Management Techniques and Controls**

(9) Departmental reports completely fail to disclose the effectiveness of performance and have little value for cost control purposes. Many basic forms from which such data are compiled are needlessly complicated and duplicative. Standard payroll forms, time cards, job tickets, and similar documentary data should be adopted.

(10) Preparation and maintenance of expense budgets are unduly laborious

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\* ED. NOTE: Detailed formulation on the rationale dictating frequencies is furnished in the Supplementary Report. Potential savings are less than would be expected on first thought.

because of manual posting. The statements lack vital comparisons. The functional form of expense budget, i. e., the "program budget," should be required by the Commissioner, if only for departmental purposes.

(11) Accounting for stores and supplies has many arbitrary practices that nullify close operating control and add to the operating expense. Joint study of corrective measures should be undertaken with the Department of Purchase, with reference also to the report (M-11) prepared by the Division of Analysis.

(12) Functional expense analyses are highly unrealistic, and fail to show any comparison with prior performance or any acceptable norm. In addition, presentation is poorly organized, and forms are needlessly complicated and are furnished too infrequently and too late.

(13) Adequate measures of operating performance are completely lacking in reports prepared for top management. Comparisons are drawn on factors that have no realistic bearing on operating efficiency. Standards should be established by setting up statistical procedures which will provide good experience norms to measure the performance of each district. The direct and indirect savings that can be realized from these performance controls should exceed 10 percent of the payrolls involved.\*

### **Equipment and Facilities**

(14) \*\*

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\*ED. NOTE: This estimate of 10 percent is given in the Major Findings of the final Report as an estimate based on the experience of the engineers. It is not documented as a calculated saving in the body of the consultants' Report.

\*\*ED. NOTE: Paragraph 14, appearing in the Major Findings of the final Report, was subsequently withdrawn by the engineers as based on erroneous data. It had to do with the percentage of the Department's truck fleet out for repairs.



(15) Maintenance of the truck fleet should be improved. Proper cost records should be kept on individual vehicles. Required service should be scheduled to use night or weekend hours.

(16) Compactor-Escalator type collection trucks should become the standard collection unit for future purchases.

(17) New York lags behind other cities in the use of mechanical brooms.

(18) The Department's heavy mobile equipment used for land filling, as well as the marine units, barges, and tugs, are all well chosen for their purposes, are adequate in number and uniformly well maintained.

(19) Truck maintenance should be performed at a central motor repair shop, and the garage structures should be used simply for storage of assigned vehicles, for fueling and lubrication and the simplest repairs, and for headquarters of district personnel.

### Long-Term Plans

(20) Incineration of garbage and rubbish is the most economical and satisfactory method of final disposal in the City of New York.

(21) Ultimate incinerator requirements for 1970 have been based on an estimated refuse of 0.433 ton per capita. Other factors, such as changes in social and economic conditions and technological advances, do not appear in the analysis of the problem. However, these factors should be considered to affect requirements whether the population changes or not.

(22) The full incineration program anticipates the installation of 5 additional facilities, or a total of 16 incinerators. The modernization and/or enlargement of present units plus the new ones will produce a peak capacity of approximately 12,600 tons. This is more

than sufficient for any foreseeable requirement, which actually may not exceed 11,800 tons per summer day.\*

(23) The Department's plan of modernizing present units, primarily by providing mechanical stoking, is highly desirable because of the economies obtainable in costs of operation. However, before any further steps are taken to complete this whole program, detailed engineering studies should be made of sites, types of construction, possible modernizations, and consolidations.

(24) The higher capital cost of mechanically stoked incinerators is warranted by the much lower operating cost. Locations of incinerators on waterfront sites will reduce the cost of residue haulage.

(25) The present nine waterfront loading stations have ample capacity to handle current volumes or tonnages for marine transport, but are poorly located for minimum hauling cost.

(26) The full incinerator program will reduce the present volume going to fills by two-thirds. If disposal operations were to be continued at the present rate, land and marine fills would last from 4 to 10 years. If the City had full incineration today the same fills would last from 12 to 31 years.

(27) The Department's own engineering report does not look beyond the capacity of the presently available fills. The long-range urgency of this ultimate disposal problem should require the initiation of engineering studies leading to the acquisition of additional areas.\*\*

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\*ED. NOTE: The estimate of 11,800 was raised from the 11,000 mentioned in the final Report because of revision of preliminary population figures supplied to the engineers.

\*\* ED. NOTE: The engineers have withdrawn their specific mention of the Jamaica Bay area in this connection.



(28) District garages should be centrally located in their respective areas; and (as previously stated) all repair and maintenance functions should be moved to a centrally located maintenance shop.

(29) Where distant hauls are necessary to waterfront or incinerator loca-

tions, hauling costs become prohibitive. The feasibility of intermediate collection transfer stations should be investigated. The Department's estimate of unit cost of \$5,000 per ton for new incinerator capacity is high, compared with the experience of other large cities; \$3,500 per ton would be more realistic.\*

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## SECTION 2

# ACTION OF THE MAYOR'S COMMITTEE

(1) In general, the Mayor's Committee endorses the Department's major programs and policies and its general management improvement programs advanced in recent years, many of which have resulted from investigations conducted by the Division of Analysis of the Bureau of the Budget, and by the Citizens Budget Commission. While the Committee's engineers call for a great deal more mechanical sweeping, (see paragraph 4) studies and further plans in that direction are already under way in the Department, and the emphasis should be on continued intensification rather than on a totally new line of action. Similarly, the engineers' recommendations for elimination of section stations (see paragraph 7), with consequent large-scale economies in manpower estimated as possibly amounting to \$250,000 annually, are already under way as part of the Department's program. The engineers further advocate providing supervisors with motor vehicles, where possible, and cite a potential saving of \$570,000 by a consequent reduction in the numbers of field foremen (see paragraph 7). The

Committee recognizes that the above recommendations made by the Committee's consultants are, in fact, endorsements of recommendations previously made in the City's own management program and by civic groups, which resulted in their inclusion in the Department's program. Of greatest immediate management importance is the endorsement, by the engineers, of the recommendation for the development of more adequate measures of performance and statistical controls, which the engineers are convinced will result in very sizeable direct and indirect savings. In this connection, the engineers advocate a performance budget. This is a general matter which has been considered in its broader aspects by the finance study.

(2) Incineration is the most economical and satisfactory method of garbage and rubbish disposal for New York City,

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\* ED. NOTE: Based on this estimate, and giving effect both to lower population estimates and to lower unit cost figures for new construction, the Department's estimated cost of \$55,495,000 for its long-term incineration program (including modernization as well as new construction) could probably be reduced by as much as one-third.



if areas are not available for sanitary landfill operations. But the Department's long-term program should be reconsidered in the light of the Report's indication that the planned capacity is excessive for our population estimates; and attention should be given to the Report's general conclusions regarding the advantages of waterfront sites. The City should also reconsider the capital budget commitment called for, in view of the Report's findings that cost estimates of \$5,000 per ton for new incinerator capacity are high compared with experience in other large cities. In this connection, mechanically stoked incinerators are warranted, despite higher capital cost, because of lower operation cost. Higher capital costs may also be justified if annual maintenance cost can be reduced. Based on the foregoing, the Department should review its long-term incineration program to see whether the projected figure of \$55 million could not be materially reduced.

(3) Any future program on waterfront loading stations should envisage relocation of present stations. The feasibility of intermediate collection transfer stations should be investigated, to reduce haulage costs, with the use of covered structures to reduce community objections.

(4) The efforts of the City to obtain a great deal more mechanical sweeping should be continued and intensified. The Department should develop further data on the number and cost of curb-miles cleaned by hand and by machine methods, and make an appropriate engineering determination to reduce the present 100 to 1 ratio of payroll costs of hand and machine sweeping. Also, the parking regulations permitting uninterrupted sweeping, which have proved so successful in pilot installations, should

be extended, and more night sweeping should be done.

(5) Frequency of waste collection should not, in general, be increased. Study by the Department should be given to the specific formula outlined in the engineers' Supplementary Report for determining optimum frequencies, looking toward the reduction of frequencies where feasible, with special attention to the "barometers" set up to indicate when standards of frequency should be changed.

(6) While the general excellence of the Department's organizational procedures is recognized, its methods and practices should be so set up that the central bureau headquarters more fully controls not only the policies but also the activities of all operating departments.

(7) Section headquarters stations should be abolished wherever possible. The district garage should be established as operational headquarters and reporting point for all personnel of the district. In this connection, field supervision should be motorized except in highly congested areas.

(8) Consideration should be given to increasing the effective employment time of the men by ending the practice of requiring truck drivers to be back at the garage for four o'clock roll call (thus ending the work of the loaders at a considerably earlier hour); and by more extensive use of relay collection trucks to be studied and adopted where economical.

(9) We concur with the Department's plan that a central motor-repair shop should be established in the approximate geographical center of New York City, and that all maintenance, other than fueling and lubrication, should be



performed there. District garages should be centrally located in their respective areas and should serve only for storage of assigned vehicles and as headquarters for district personnel. These district garages should do only necessary fueling and lubrication in addition to the simplest of repair jobs.

(10) We concur with the Department's program for building garage facilities, but before this program, which the Committee is informed could cost some \$30 million, is fully approved, consideration should be given to the Report's comments on construction and use.

(11) A much closer control over truck maintenance should be instituted to make better use of the existing fleet. This would include proper cost records of repair and operation of individual vehicles, rescheduling of repairs to make full use of night and weekend hours, and centralization of repairs other than district-level minor repairs, all under competent, specialized supervision.

(12) The Department should standardize upon two basic types of trucks:

the Compactor type for door-to-door pickup service; and a box-type vehicle with a power loader for picking up litter accumulated by the mechanical sweepers, or snow from snow loaders when necessary.

(13) Necessary performance standards should be established by setting up statistical procedures to record and measure performance by district. Control over district operations requires district performance records. We are advised that this program is under way with the initial installation of automatic weighing scales at disposal locations.

(14) Standard forms, time cards, job tickets, and similar documentary data, such as suggested in the Report, should be adopted by the administrative and operating bureaus.

(15) It is recognized by the Committee, as stated above, that few of these recommendations are totally new or at variance with existing plans of the Department. They are restated here because the Committee is convinced that more action along these lines is now called for.

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## CHAPTER XVIII

# Fire

### EDITORIAL NOTE

The Fire Department of the City of New York has been under a more or less continuous running fire of criticism by civic groups and others on its allocation of uniformed forces, basic planning, training methods, topside controls, types of equipment specified, and wasteful practices in general.

Accordingly, the Mayor's Committee carried through a comprehensive survey of the Department, covering all phases of operation other than the techniques of actual fire-fighting, except as included in discussions of training.

Because it was not possible to find a single expert professing competency in all phases of fire-fighting organization and operations, it was decided to break the project up into seven separate studies, as follows:

- (1) Number and Distribution of Land Companies
- (2) Statistical Determination of Company Distribution
- (3) Apparatus and Hose
- (4) Portable Auxiliary Equipment
- (5) Marine Division
- (6) Training
- (7) Organization and Management

Problems of compensation and pension of uniformed fire forces were made part of the survey of the Police Department, but the applicable portions of that survey Report are digested



in Section 8 of this chapter. Detailed analysis and recommendations on pensions of the uniformed fire forces are contained in the separate Report on pensions, digested in Section 4 of Chapter VI on Personnel.

The first two of the studies in the list above were considered vital to any management review, inasmuch as over 95 percent of the Department's budget is for personnel, the greatest portion of which is in the uniformed forces—and the number of men required depends, in turn, upon the numbers of companies and complements. The basic study on this, No. 1, was assigned to A. C. Hutson, long an engineer with the National Board of Fire Underwriters. His Report is digested in Section 1 of this chapter. In addition to visual inspection, discussions with Fire Department officials, and his own intimate knowledge of conditions in New York, Mr. Hutson had the benefit of detailed statistical data on existing structures, past distribution of fires, experience data of the Fire Department, and probability factors of multiple-alarm fires occurring simultaneously, made by Professor Valinsky of City College, and referred to in No. 2 above. While Professor Valinsky worked closely with Mr. Hutson in this connection, Parts II and III of his Report carry the statistical analysis farther. His entire Report was published separately, and is digested in Section 2 of this chapter.

It was recognized by all concerned that much of the Fire Department's apparatus is run down, and that a planned program of modernization and additions is urgently needed. To this end, an Advisory Panel on Fire Equipment, with members drawn from leading fire apparatus manufacturing companies, made a thorough study of land equipment needs and specifications, as indicated in No. 3 above. Three Mayor's Committee documents grew out of the work of this Panel: Documents No. 100, No. 105, and No. 110. They are digested in Section 3 of this chapter. (Marine equipment needs are covered in No. 5 above.) The Advisory Panel was headed by a Steering Committee on which the Fire Department and other interested City departments were represented.

A separate Report on portable auxiliary equipment, as indicated in No. 4 above, was rendered by Harold J. Burke, formerly Chief of Department of the New York City Fire Department. This is digested in Section 4. Chief Burke also prepared the



Report covering the Marine Division, digested in Section 5. (The Committee's consultants differ on the size of the boat needed for New York City service, as noted in the digest and in the action of the Committee.)

The study on training, by Chief J. W. Just, Director, Fire Service Extension, University of Maryland, indicated as No. 6 above, is digested in Section 6.

Finally, the comprehensive review of organization and management, No. 7 above, covering all phases of the Department's operations exclusive of actual fire-fighting, was conducted by Arthur Lazarus. The digest of this Report appears in Section 7.

In arriving at its final action, as indicated in Section 9, the Mayor's Committee had the advantage of reports on certain studies recently conducted in the Fire Department by the Division of Analysis of the Bureau of the Budget and the Citizens Budget Commission, as well as conferences with Department officials and representatives of uniformed employee groups by the Committee's Subcommittee on Fire, at which the effects of the Hutson plan on operations were gone into in detail. It will be noted that the action of the Committee does not force the plan upon the Department, but rather urges that the Mayor secure the reaction of the National Board of Fire Underwriters—although with or without such approval, it urges that very strong consideration be given to the proposals by the Department—and that at the very least, the plan indicates the feasibility of a hold-the-line policy with respect to any increase in manpower or equipment at this time.

Many of the recommendations and suggestions growing out of the studies are of a highly technical nature, and are passed on to the Department without formal action, though with general endorsement and the recommendation that they be reviewed thoroughly by those charged with final responsibility. Certain recommendations in the Lazarus Report having to do with topside organization, including drastic recasting of the whole structure of fire prevention, combining prevention with investigation, are rejected by the Committee in favor of its own plan of organization previously submitted. However, the Committee is in favor of the important divisional and departmental recommendations of this Report. It also does not support the



Lazarus Report's designation of the need for a new Headquarters Office building as "urgent," and calls for further study of this project, along with others. Both the Lazarus and the Burke Report on Marine call for the abandonment of one marine company, although not the same one. The Mayor's Committee favors the Burke recommendation. The Committee has not endorsed the recommendation (Section 8) that prime responsibility for examination and recruitment be transferred to the Fire Department from the Civil Service Commission.

The Mayor's Committee favors the Lazarus recommendation against extreme centralization of company building inspection. Thus, although the Committee concedes the importance of closer central supervision of inspection advocated by the Worden & Risberg Report, it has not adopted the latter's recommendation for abolishing company building inspection.

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## SECTION 1

# NUMBER AND DISTRIBUTION OF LAND COMPANIES

BY

A. C. HUTSON

In 1929, the National Board of Fire Underwriters conducted a complete survey of the City of New York, studying intensively conditions likely to lead to large individual fires or to a conflagration. Since that date, hazards in certain sections of the City have been reduced by such factors as the adoption of a modern building code, the enforcing of

zoning restrictions on heights and occupancy, and the replacement of many old structures by new buildings, generally of fireproof construction. The use of automatic sprinklers has increased in those buildings with occupancy involving high hazard.

In conclusions drawn at that time, which largely apply today, emphasis was placed upon adequate fire-fighting facilities. Where the Fire Department is concerned, there is still the hazard of

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Digest from "Number and Distribution of Engine and Ladder Companies in the City of New York," by A. C. Hutson, October 29, 1951.



traffic congestion delaying response. There is also the need of sufficient apparatus and manpower to handle simultaneous fires. This involves several interrelated items: the total number of fire companies in service, the manning of these companies, the capacity and kind of fire apparatus, and the efficiency of operations.

In the years since 1929, companies have been added or relocated to take care of territory as the City grew. Advantage has also been taken of the greater capacity provided in pumpers. The installation of enclosed stairways in modern buildings and an increase in outside fire escapes on older structures, together with the installation of some power-operated aerial ladders, have lessened the hazard to life from fire. Although the total manpower has largely increased, the individual manning of companies is not better maintained than in 1929, and at times there is a marked deficiency in some companies.

### Factors Under Consideration

All American fire departments are a product of gradual growth, with locations of fire stations often going back to days when the service was by volunteers. Even though such locations may have been abandoned, the present status of station locations in the older sections is based upon response of horse-drawn apparatus. There is, in all these cities, the possibility of relocating companies to points more central to the area of response, or where they can take advantage of improved highways. Some cities have also rearranged the response assignment on the basis of the travel time-distance of automobiles as compared to horses.

The study of the number of fire com-

panies needed in the City of New York was made in several steps: First, to provide a company within a desired distance by roads to every part of the City. Second, to provide enough companies to permit a mass response to those parts of the city where life hazard is severe, or where construction, occupancy, and density of buildings expose a section of the City to spreading fire, or where extremely high values are involved. Third, to assure enough companies to take care of the potential danger of simultaneous fires.

In addition to several weeks' study of the City through visual inspection, in which the general heights, occupancy, and kinds of buildings were noted, several maps were prepared by David Valinsky, of the City College of New York, together with other analytical data showing distribution of fires, work of the different companies, density of fire or other incidents requiring response, etc.

In considering the number of fire companies required and any redistribution which might be possible because of modern improvements in construction and the installation of automatic sprinklers and automatic fire detection, there are several basic facts that must be recognized:

- (1) Modern apparatus, of good capacity and suitable for the territory, must be provided.

- (2) Full manning of each company must be maintained.

- (3) The training and educational program must be developed further and put into full operation.

- (4) All engine companies must be provided with necessary equipment, such as masks, breathing apparatus, and fog nozzle, to reduce injury to the firemen and permit more effective operations.



In addition to the above, the revision of the running or assignment card would be advisable.

There are few cities without the possibility of a conflagration. Where such occur, or where the original fire is of such magnitude that there is danger of its reaching conflagration proportions, all or much of the municipality is stripped of protection by response of the fire companies in service.

For conditions such as these, aid of other communities is usually requested. Where the number of pumper companies in the municipality is less than 20 to 30, the outside companies respond to and work at the fire. For places having more pumper companies than this, the usual service rendered by the outside-aid companies is to "fill-in" some of the vacated stations to provide protection to the stripped area.

New York City has wide waterways separating the City into three extensive sections, which are essentially several cities, each with a congested district or districts where life hazard is severe or values are high. The size of the City introduces a probability of simultaneous response to two or more large fires while still having to take care of the usual number of small fires.

The City has an extensive outside-aid territory on three sides: Westchester County, Nassau County, and New Jersey. However, the companies from these territories are not acquainted with the street plans and house numbers of New York, nor with some of the types of buildings. In addition, many of the companies are volunteer organizations and may not be well manned if called for daytime operations.

It is obvious that New York City must maintain in service an adequate number of engine and ladder companies

to provide for fire conditions which recent past experience indicates as probable. For exceptional emergencies, in preference to the use of outside aid, definite plans should be worked out to make use of the large number of off-duty firemen of New York's Department. It is not logical to ask such off-duty firemen to respond to and work at fires so long as on-duty firemen are readily available, but it is not unreasonable to expect that they take over protection of uncovered areas.

Except for blizzards, snowstorms, or tornadoes, at which off-duty men and reserve apparatus have been used and may be needed again, the probability is very slight that these off-duty men will be needed because of one or more serious fires. However, the failure to put into operation such a plan might result in the destruction of human life and property values running into many millions of dollars. These trained men should be considered a cadre on which to build Civil Defense.

In the days of horse-drawn fire apparatus, the criterion for distribution of fire companies was to have no part of a high hazard area more than one-quarter to one-half mile from a company. However, before any such basis for location of fire stations had been established, most cities, including old New York, Brooklyn, and the many small towns which were later consolidated into the five Boroughs which now make up the City of New York, had established fire companies on the basis of the protection required in an immediate neighborhood. This was especially true of the earlier companies, organized on a volunteer basis, in the lower part of Manhattan and the business area along the waterfront of Brooklyn; with the need of quick response, such com-



panies had to be established on the basis of readily available volunteer manpower rather than on a systematic distribution to provide equal protection for all occupied territory.

Even after the consolidation of the Counties into the City of New York and the placing of all fire service under a single Commissioner, with a Fire Chief nominally the operating head, there was no attempt to call fire companies from one Borough to another until about 30 years ago, and present running cards make little use of such transfers.

During the past 20 years, the chief officers of the Fire Department have made special studies of the distribution and number of fire companies and have reported their findings to the Fire Commissioner. These findings have resulted in a discontinuance of most of the second sections of double companies, a relocation of a number of companies, and the installation of companies in recently built sections.

Life hazard must always be an important factor in the distribution of companies. In considering it, it must be recognized that loss of life from fire is caused mainly by asphyxia—an oxygen deficiency due to the products of combustion. It does not take long for a fire to produce great clouds of smoke, which may result in loss of life.

The time necessary to mass a large number of companies will also be a factor in the distribution of fire companies, especially where there is considerable congestion of people—near theaters, department stores, large office buildings, hotels, clubs, and extensive multi-family houses.

One consideration which must not be passed over is that fire is a producer of panic. This may consist only of the fail-

ure of the individual to do that which should be done, or it may be a mass movement of a crowd where people are killed in the crush. The early and orderly action of trained firemen aids in controlling panic.

The designing of buildings so that vertical and horizontal spread of fire will be restricted will go far toward removing the life-danger from fire. Other vital factors are the automatic alarm system, which will notify occupants and call the Fire Department, and the automatic sprinkler system, which not only can perform the function of the automatic alarm system, but will also apply water to the fire.

Were universal advantage taken of improved construction, the automatic alarm service, and the automatic sprinkler system, there would seem to be little need of municipal fire-fighting service. But even under the best of conditions, there must be a certain amount of policing to assure that neglect or carelessness has not nullified the benefits normally supplied by these preventive factors. Such policing can best be obtained through the man who is vitally interested, that is, the fireman.

Even when a structure is in the most perfect physical state from the standpoint of safety from personal injury by fire, there are possibilities which make it necessary to provide municipal fire service. These possibilities are those introduced by the nature of the contents, the danger of explosions, the age and activity of the occupants, and, in large cities, the congestion resulting from an exodus of a large group of people from buildings.

Millions of dollars are being spent yearly to safeguard and reduce the destruction of the nation's natural resources. To the individual community,



however, the question of greatest interest is that of saving the productive resources on which the life of the community depends. Fire in an urban area not only destroys natural resources, as represented by raw material, but it destroys the work put into the article from the initial material to the finished product. But of even more serious importance is the destruction of the tools and machinery used in production, and of the buildings occupied. The great fire in Chicago affected the entire nation, and the earthquake and fire in San Francisco may have been instrumental in producing the financial panic in 1907.

To guard against a conflagration, in addition to that fire service normally needed to combat an individual building fire and to render rescue work for the occupants, there must also be sufficient service to prevent fire-spread to exposed structures, to take care of panic conditions, and to relieve those men who have worked strenuously. In every conflagration other fires have occurred, and for the larger cities of the country the occurrence of simultaneous fires is very probable. New York City has had three serious fires occurring at the same time, each within a few blocks of the other.

The National Board of Fire Underwriters, as a result of surveys of American cities of over 25,000 population, has established that any city over 200,000 population may expect, during a major fire in the congested value district, a second fire in the same district with 15 to 70 percent of the severity of the first.

There are other items to be considered, including: topographical conditions; probability of snowstorms, hurricanes, earthquakes, and floods;

traffic conditions; provision for the recall of off-duty firemen; the availability of reserve fire apparatus; the distribution of congested districts; and, to a minor degree, the outside aid available.

It is the general consensus of those who have studied the subject that to provide quick response no part of a city should be further than 3 miles from a pumper company. As values and congestion increase, the distance would be  $1\frac{1}{2}$  to 2 miles in built-up dwelling areas. Multi-storied areas and minor mercantile sections may readily require a company within 1 mile.

Congested high-value areas, of office, store, factory or water-front occupancy, should have companies so distributed that one would be within  $\frac{3}{4}$  mile of any important part. Where traffic congestion is serious, this last may well be changed to  $\frac{1}{2}$  mile.

Ladder service should be distributed on somewhat the same basis, except that the use of quick-raising aerials may justify a distance up to 1 mile to congested areas, and in residential sections the distance will depend largely upon location of individual multi-storied buildings. The question of combining pumper and ladder service in one company, either with a pumper-ladder truck or with two separate pieces of apparatus, is one of special consideration in a city involving a wide distribution of high values or one with a considerable number of multi-storied buildings.

The above distances will provide reasonably quick response of at least one piece of fire-fighting and life-saving apparatus. Statistics of the City of New York for 1950 show that of the 44,370 fires at which the Department operated, only 391, or 0.9 percent of the total, required the use of more than 3



hose streams. It is these larger fires which vitally affect the welfare of the community; they produce 70 percent or more of the actual destruction of value and more than that percent of the contingent loss resulting from fire.

To prevent or limit these larger losses, there must be sufficient fire companies to produce a mass response within a reasonable time interval. The usual dwelling area seldom requires more than four pumper companies, but when these are of wooden construction, closely grouped, or where there are small mercantiles or industries, there may be need of eight pumper companies and one or two ladder companies. The size of the building, the number of occupants, the character of contents, and the congestion existing are some of the factors that make an increase in mass response desirable, and the total maximum will increase, usually in groups of 4 companies, to 12, 16, and often as high as to 20 companies for an individual fire having serious probability of extending.

In connection with this question of mass response and the general matter of caring for emergencies, such as snowstorms or riots, it should be remembered that of the total force of trained fire-fighters, less than one-third are on duty.

### **Planning for Future Needs**

There are several outstanding facts which must be taken into consideration in planning for the present and future needs of fire service of New York City.

The passage and enforcement of modernized laws and ordinances, together with the replacement of many buildings brought about by economic and other factors, has resulted in a

general betterment of structural conditions in all parts of the City.

There has been a marked lessening in the occupancy hazard, especially in many of the more serious cases, through the erection of exterior fire escapes on the older buildings and the installation of automatic sprinklers, automatic and manual fire alarm systems, and other protective features.

The facilities for intercommunication among the various Boroughs, especially those on opposite sides of the East River, provided by the various bridges and tunnels, result in a Fire Department which must be recognized as an integral whole, and not as several individual fire departments as was nominally the case in the past, when the travel distances were too great for horse-drawn apparatus.

The lessening in on-duty time of the firemen, while primarily for the benefit of the individual, has reduced the probability of a slowing up of the men because of fatigue from fighting several fires during time on duty, and has provided a large body of experienced fire-fighters for emergencies. However, full value of this factor has not been achieved at present because of the deficiency in training and because provisions for getting off-duty men back into service have not been fully developed.

There has been a material improvement in means for transmitting notification of a fire. In addition to an exceedingly large increase in telephone facilities provided through the commercial telephone companies, the various parts of the City have available well-distributed fire alarm boxes connected to reliable and well-maintained systems.



The fire service has been backward in the use of some facilities found of great value in other cities, such as radio intercommunication, gas masks and special breathing apparatus, small hose, and salvage work. There is an indication that improvement in these may be expected.

The lack of funds has prevented maintenance of suitable manpower in the individual company. This is particularly serious in a city which consists largely of multi-storied buildings and which uses basements and cellars extensively for storage and industry.

There has been no modernization of the assignment or running card to take advantage of the greater speed of automobile apparatus over horse drawn, with the result that at the time of a serious fire there is an unnecessary movement of fire companies, leaving large areas unprotected. Other cities have overcome this problem, and it is assumed in these studies that such will be the case in New York.

Traffic, especially in the daytime and in certain congested areas, has always been very heavy, even in the days of horses and wagons. Improvement in the response speed of fire apparatus has increased, even though the total number of vehicles on the road is greater. This has been brought about by a larger police force assigned to traffic, an increase in speed by all traffic, enforcement of "No Parking" in congested areas, and quicker acceleration of fire apparatus.

The complete stagnation of fire apparatus by snow storms can no longer be expected as an ever present winter danger; better meteorological forecasting and a good snow removal program are now available.

The location of fire stations and the assignment of apparatus have been made without a major plan, with the result that there have been many companies poorly located or too close together; all recent houses have been erected for the dual purpose of housing an engine company and a ladder company, even though the territory does not now and may never have need for longer ladders than those which other departments carry on pumpers.

The cost of a general relocation of fire companies to conform to an ideal distribution would be beyond the ability of the City to carry out. Even if it could be done, there would be no assurance that changes in occupancy and structural features would not be as great in the future as they have been in the past. It is therefore logical to make use of existing fire stations, even though they may not be well located at present with respect to main or through highways or providing protection to the usual response area which a company can readily handle. On this basis no new stations are recommended except in areas now being built upon.

### **Company Manning**

The question of proper manning of fire companies is one of importance in every community and it becomes one of the major factors in fire-fighting where buildings in excess of three to five stories in height are general, not only in the congested areas, but also in residential, storage, and manufacturing sections. New York City, especially Manhattan and parts of the other Boroughs, is essentially a city of multi-storied buildings; therefore, particular attention to the actual manning of companies is essential.



Assigned strength of companies is somewhat misleading. The day-by-day record of the number of men actually riding on the apparatus must be studied and remedial means taken to correct conditions which result in a response less than that considered by many authorities to be the minimum.

As stated in the Standard Schedule for Grading Cities and Towns of the United States, which schedule has been accepted by the International Association of Fire Chiefs as a proper basis, the number of men provided and the provisions made for vacations, sickness, and details shall be such as to maintain manning of each company as follows:

COMPANIES	MINIMUM MANNING*
<b>Within or near High Value Districts:</b>	
Pumper Company .....	7
Hose Company .....	6
Aerial Ladder Company .....	7
Service Ladder Company .....	8
Pumper-Ladder Company .....	10
<b>In other Districts:</b>	
Pumper Company .....	5
Hose Company .....	4
Aerial Ladder Company .....	6
Service Ladder Company .....	6
Pumper-Ladder Company .....	8

\*This manning includes an officer, that is, when seven men are specified there would be one officer and six privates.

It is not feasible to have enough manpower so that at no time will any company be below the above specified figures, but at least the total of men assigned to a company or the Department as a whole should be based upon them, with such other men as will be needed to take care of vacations, average sick leave, and time off duty, unless substitutes can be provided. Company members making inspections in their districts are considered on duty.

In considering the above figures, it must be remembered that the actual

working force on hose lines is one less than that given in the table; under present conditions, with non-automatic operation of the pumper, one man must remain with the apparatus.

A 2½- or 3-inch hose requires 4 men to handle it on the level, and when it must be used in upper stories, 6 men or more are desirable. It has been argued that men from ladder companies can provide these additional men. But these men have other and important duties, such as life-saving and opening up the building, and these must be carried out in the first stages of operations. Only in a fire of long duration can they be considered available for hose work.

If the fire appears to be reaching an advanced stage, it is, of course, proper to call for additional companies. With companies seriously undermanned, it becomes necessary to send in a third, fourth, or fifth alarm where a second alarm of well-manned companies, backing up the well-manned first-alarm assignment, would have been sufficient. This transmitting of multiple alarms reduces protection in other parts of the City.

A further feature of undermanning is an excess use of fixed nozzles, such as turret or wagon pipes, ladder pipes, cellar nozzles, or similar devices. These devices are invaluable when properly used, but they can be misused to such an extent as to cause excessive damage by water, and such has been the case because of undermanning.

For large cities it is definitely preferable, where funds available is the controlling factor, to reduce the number of companies rather than to maintain more, all undermanned. Fire-fighting is strenuous, hard, and dangerous work, and cannot be performed effectively by undermanned companies.



In New York City, at the present time, to maintain a minimum of men on duty with a vacation allowance (8.2 percent), a sickness allowance (1 percent), and men off duty, the following total company strength must be assigned:

REQUIRED ON DUTY		REQUIRED TOTAL ASSIGNED	
Officers	Men	Officers	Men
1	4	4	16
1	5	4	20
1	6	4	24
1	7	4	28

Conclusions

As indicated in the introductory part of this Report, the first step in this study was to consider proper distribution of fire companies so as to provide a company within a desired distance by roads to every part of the City.

On this basis alone, it was found that the number of companies required is only about 60 percent of the existing companies. A further study was made on the increase necessary to take care of the density of fire calls and the frequency of multiple alarms, and to provide that degree of protection necessary to protect life and property in the congested areas of the City. This took into consideration the present facilities for inter-Borough response, by bridges and tunnels, which permit coverage under multiple alarm conditions without leaving any one Borough unduly stripped of companies.

In the final study, no reduction was considered advisable in fire boat companies, rescue companies, or any of the special companies, such as air-compressor units, ambulance, gasoline-oil, searchlight, field kitchen, and emergency utility units. The single foam powder supply unit, which is located in Queens, does not provide sufficient supply, readily available, to take care of

the expansion in traffic of oil-carrying trucks and barges, and to permit its use on storages of oils, paints, rubber, and like materials. At least one unit, carrying either foam powder or foam solution, is needed in each Borough.

The fire records of the United States, with material variation from year to year, indicate an annual fire expectancy of about 4.5 per 1,000 population. Where population is congested, as in multiple-storied residential areas, or in industrial, store, or office occupancy, it is obvious that there will be an increase in fire incidents. Many multi-storied buildings, without adequate exit facilities and suitable construction safeguards to limit fire spread upward from floor to floor, are readily susceptible to fires which could result in sweeping conflagrations.

Where older structures have been replaced by others of material and design as outlined by modern building codes, or have been provided with appliances which would quickly discover a fire and apply extinguishing agents, this concentration of multi-storied structures no longer constitutes danger of holocausts.

The Borough of Manhattan was, to a large extent, built prior to the passage of suitable laws applying to multi-storied buildings. It has been essential, therefore, that most of the areas of this Borough have many more companies than would be called for on a basis of quick response only; the increased density of population causes a greater incidence of fire, thus producing a high potential hazard of simultaneous fires, and a probability of spreading fires.

There has been, however, a marked replacement in Manhattan of old buildings by modern structures, predomi-



nantly in the southern end of the Borough, though much of the other part still requires a maximum of protection.

The older portions of the Bronx, of Richmond, and of Brooklyn involve sections with conditions somewhat like those in the older areas of Manhattan. The buildings are seldom of the height or area found in Manhattan, but they are of wooden construction, often adjoining and covering all sides of a city block. Much of the northern part of Brooklyn is of this type.

No formula has been devised on which to base the number of fire companies and their distribution for those parts of cities where there is congestion of multi-storied buildings of inferior construction. The facts available are the calls answered by the individual companies and the amount of work done by each, the number and location of multiple alarm fires, and the uncovering of territory by the response of companies. A study of these has indicated an unequal distribution of work, which can be corrected by modernizing the response assignment.

A feature notable in the fire service in New York is the ratio of ladder truck companies to engine companies, which is 1 to 1.76, with 1 to 1.68 in Manhattan; 1 to 1.58 in the Bronx; 1 to 2.08 in Brooklyn; 1 to 1.66 in Queens; and 1 to 1.56 in Richmond. Compared to these are the ratios in other large cities: Chicago, 1 to 2.35; Philadelphia, 1 to 1.85; Los Angeles, 1 to 3.48; Detroit, 1 to 2.00; Baltimore, 1 to 2.03; Cleveland, 1 to 2.43; St. Louis, 1 to 1.86; Boston, 1 to 1.50; Washington 1 to 1.87; and San Francisco, 1 to 2.61.

The Bronx, Queens, and Richmond have a greater number of ladder trucks in proportion to engine companies than

either Manhattan or Brooklyn, both of which are outstanding for old buildings of multi-family occupancy in which the life hazard is serious. In all other cities and towns in the country, the pumpers of engine companies are provided with an extension ladder and a roof ladder, the first of which can be quickly used for rescue work in two-story dwellings. In fact, the standard specifications of the International Association of Fire Chiefs, the National Board of Fire Underwriters, and the National Fire Protection Association all require two ladders. Now that aluminum ladders are available, many recently purchased pumpers have been provided with a 35- or 40-foot extension ladder, a 24- or 28-foot extension ladder, a 12- or 16-foot straight ladder, and a 12- or 16-foot roof ladder. Such pumpers are entirely suitable for much of the residential areas of the Bronx, Brooklyn, Queens, and Richmond. They are less cumbersome than the quad type of ladder truck and add little to the cost of a pumper. Where a pumper is so equipped, an increase of three men is desirable, making a total of eight as standard.

To provide all extra-high-value areas with engine companies having a 1,000-gallon pumper and a hose tender, preferably a 750-gallon pumper, all companies in Manhattan except 3 above 138th Street must be of this character. Also those engine companies in the older part of the Bronx, the Borough Hall section of Brooklyn, and the shipping and industrial areas of Brooklyn and Queens, as well as the central companies of Flushing, Rockaway, Coney Island, and Jamaica, should be so equipped.

A material reduction in engine companies in Manhattan is justified by the



greater facilities for response to this Borough from Brooklyn and Queens.

In the other Boroughs, the close spacing of engine companies in some of the older sections is no longer necessary. This is in part because streets have been cut through and paved, outlying companies have been established, and pumpers are of greater capacity.

There is definite need of a well-worked-out plan for the use of the off-shift fire force at time of emergency. This is particularly true for such natural catastrophes as wind and snowstorms, and for grass fires in Richmond and parts of Queens and the Bronx. That these off-shift men should be used in Civilian Defense is self-evident. A budget provision of an emergency fund, for the payment for service on off-duty time, is preferable to the present practice of allowing additional days off duty.

The total number of companies needed by the City is indicated below. It should be noted that 88 engine companies in high-value areas are to be provided with a second pumper to act as a hose tender, and the engine companies in residential areas will carry ladders.

Borough	No. of Companies Required	No. of Companies Discontinued	Present Fire Department Strength
Manhattan	45 Engine Companies	9	54
	27 Ladder Companies	5	32
Bronx	26 Engine Companies	4	30
	17 Ladder Companies	4	21
Richmond	17 Engine Companies	0(+3)	14
	4 Ladder Companies	5	9
Brooklyn	63 Engine Companies	10	73
	30 Ladder Companies	5	35
Queens	49 Engine Companies	1	50
	21 Ladder Companies	9	30
Total	200 Engine Companies	221 Engine Companies	
	99 Ladder Companies	127 Ladder Companies	

RECOMMENDATIONS

(1) The following companies should be discontinued:

Manhattan		
Engine Companies	7, 11, 12, 14, 24, 26, 27, 55, 67	Total 9
Ladder Companies	9, 11, 25, 34, 36	Total 5
The Bronx		
Engine Companies	42, 45, 48 71	Total 4
Ladder Companies	19, 42, 50, 51	Total 4
Brooklyn		
Engine Companies	205, 211, 213, 218, 242, 248, 252, 269, 278, 326	Total 10
Ladder Companies	149, 156, 159, 169, 170	Total 5
Queens		
Engine Companies	297*—(3 companies to be relocated)	Total 1
Ladder Companies	135, 136, 137, 144, 158, 162, 163, 164, 165	Total 9
Richmond		
Engine Companies	None—(3 new companies recommended)	
Ladder Companies	79, 81, 82, 83, 84	Total 5

(2) The recommendation made by the Department for the relocation of Engine Companies 275 and 299 (Queens) in the vicinities of Hillside and 183rd Street and of Horace Harding and 184th Street should be carried out at an early date, and Engine Company 264 should be relocated in a new station in the vicinity of Union Turnpike and 251st Street.

(3) Engine Company 267 (Rockaway) should be moved to a new station at Broad Channel and should be provided with a 750-gallon pumper.

(4) With the construction of a new station in the vicinity of 6th Avenue and Pacific Street (Brooklyn) for Engine Company 219 and Ladder Company 105, present Engine Company 269 should be discontinued.

(5) A new station should be built in the vicinity of Bronxwood Avenue and 233rd Street (Bronx) for Engine Com-

\*ED. NOTE: Corrected from numeral 197 appearing through error in published Report.



pany 63 and Ladder Company 39, as recommended by the Fire Department.

(6) Engine Company 237 and Ladder Company 108 should be moved to a new station in the vicinity of Bushwick Street and McKibbin Street.

(7) Ladder Company 5 (Manhattan) should be relocated in the station of Engine Company 24 and the engine company should be discontinued.

(8) Engine Company 234 should be relocated in a new station in the vicinity of 20th Street and 64th Street (Brooklyn).

(9) New stations, each for an engine company, should be built in Richmond in the vicinities of Richmond, Chelsea, and Eltingville.

(10) The following 88 engine companies should be provided with a 1,000-gallon pumper, and a 750-gallon pumper to serve as a hose tender:

(a) All engine companies in Manhattan, except 49, 80, 84, 93, and 95. Total 40.

(b) Bronx: Engine Companies 41, 46, 50, 60, 73, 82, 83, 88, 92, and 94. Total 10.

(c) Brooklyn: Engine Companies 201, 202, 203, 204, 206, 207, 208, 212, 215, 220, 221, 224, 226, 229, 237, 238, 239, 241, 244, 245, 256, 279, 280, and 327. Total 24.

(d) Queens: Engine Companies 258, 260, 261, 262, 266, 272, 273, 298, 303, and 306. Total 10.

(e) Richmond: Engine Companies 152, 153, 154, and 155. Total 4.

(11) All 750-gallon pumpers should should carry 300- to 400-gallon booster tanks, a 35- or 40-foot extension ladder, and three other ladders, including one with roof hooks.

(12) Pumpers acting as hose tenders should carry a portable turret nozzle, and should be provided with a platform

or other facilities permitting the use of the turret nozzle from the pumper.

(13) Each engine company with a 1,000-gallon pumper should have sufficient men assigned so that each company will have an officer and 6 men on duty at all times, including vacations and days off.

(14) Each ladder company in Manhattan, and in the areas of other Boroughs in which 1,000-gallon pumpers are required, should maintain a minimum of an officer and 6 men on duty.

(15) Other ladder companies should maintain a minimum of an officer and 5 men on duty.

(16) Engine companies with 750-gallon pumpers, located in the same station with ladder companies, should maintain a minimum of an officer and 4 men on duty.

(17) Engine companies with 750-gallon pumpers in stations which do not have a ladder company should maintain a minimum of an officer and 7 men on duty.

(18) A detailed study should be made, looking toward a rearrangement of the assignment of companies' response, to reduce the relocation of companies at time of serious fires; to limit long runs of ladder companies to outlying areas where ladders on pumpers would be sufficient; to assure coverage of all territory by companies acquainted with roads and buildings in the territory; and to equalize as much as possible the work of companies.

(19) The present 5 rescue companies should be maintained in service with a total force of 30 men assigned and a minimum of 9 men on duty. No other rescue companies to be established.

(20) Water towers should be maintained in reserve with a driver on duty



at all times, to respond only on special call. All aerial ladder trucks should be provided with ladder pipes and 3-inch hose, and should be used for elevated streams.

(21) Present air compressor units, canteen field kitchens, ambulances, gasoline units, oxygen therapy units, emergency utility units, and search-light units should be maintained and manned.

(22) A foam unit should be maintained in each Borough, and should be manned. (Note: It is suggested that the apparatus indicated in the *above three recommendations* can be grouped in some of the stations left without engine or ladder companies, which could also be used for spare apparatus. Each *piece of apparatus should have 4 men assigned*, which would assure one on duty at all times.)

(23) The present number of fire boats should be continued in service. Old boats should be replaced with modern diesel boats of 6,000 to 8,000 gallons discharge capacity at 150 pounds pressure.

(24) The present bridge chemical units should be discontinued and fire

service should be rendered by apparatus (pumpers or tenders) regularly assigned to engine companies near the bridge approaches. Such apparatus should be provided with 300- to 400-gallon booster tanks.

(25) A special committee of officers should be appointed to investigate and put into operation a program by which all members of a company can become acquainted with building conditions, sprinkler protection, and special hazards in the first-alarm response area of the company.

(26) Detailed provisions should be made for use of off-duty men.

RECOMMENDED TOTAL NUMBER OF COMPANIES

Borough	Pumper Companies		Ladder Service	
	1000 gallon & 750 gallon	750 gallon	Aerial	Engine (see note)
Manhattan	40	5	27	3
Bronx	10	16	17	7
Brooklyn	24	39	30	24
Queens	10	39	21	25
Richmond	4	13	4	7
Total	88	112	99	66

NOTE: This number of engine companies in residential areas must carry a 35- or 40-foot extension ladder and 3 other ladders and must maintain an officer and 7 men on duty.

APPENDIX  
MANPOWER COMPARISONS\*

Mr. Hutson's basic assignment was to determine the optimum location and manning for *fire companies*. Therefore, this Appendix makes specific comparisons between the Fire Department and the Hutson plans regarding only those men engaged in *active fire-fighting in land companies*, and applies Hutson company-complement figures based on recognized practice. There are many

general management considerations involved in the personnel for special detail and for assignments other than fire-fighting, which did not come within the province of Mr. Hutson's study.

The Hutson study at no time had a predetermined budgetary cut to attain. It is obvious, however, that a reduction in the number of companies required would have a significant effect on the manpower budget. Accordingly, an estimate of dollar savings is offered, based

\*Digest from Document No. 115 prepared by Headquarters Staff, January 14, 1952.



on his recommended plan. The figures given do not include permanently or temporarily disabled men on company rolls, building inspectors, hydrant inspectors, special details, etc. Neither do the figures include fire-fighters in the Marine Division. They include only those men actually serving in day-to-day fire-fighting capacities in land companies. Of necessity, figures do not include any proposed additions, such as the foam powder supply units.

MEN REQUIRED FOR ACTIVE FIRE DUTY

A. C. Hutson Plan

Title	Number of men	Salary	Budget Requirement
Firemen .....	6,916	\$4,400	\$30,430,400
Lieutenants .....	897	5,300	4,754,100
Captains .....	299	5,900	1,764,100
	8,112		\$36,948,600

Fire Department's Existing Fire-Fighting Force

Title	Number of men	Salary	Budget Requirement
Firemen .....	6,960	\$4,400	\$30,624,000
Lieutenants .....	1,109	5,300	5,877,700
Captains .....	317	5,900	1,870,300
	8,386		\$38,372,000

The Hutson plan calls for 274 fewer men at a budgetary saving of \$1,423,400. However, the comparisons made above are between the Hutson proposal, which gives each company *full manning*, and the Fire Department's *present manning*, which the Department states is below its desired quotas. (The Lazarus Report estimates that bringing the strengths of the forces up to what the Fire Department *desires* would add another \$5,000,000 to the payroll.) A full complement of manpower for companies provides many advantages, chief of which is the added safety for firemen and civilians.

Keeping in mind that Mr. Hutson has set company quotas on the basis of standard practice, it should be noted

that he reasons that company inspection could be undertaken by active fire-fighters assigned to companies during hours when incidence of alarms is low. The Fire Department contends that separate manpower is necessary for company inspection. (Note: Company inspection methods and practices are further discussed in the Reports to the Mayor's Committee by Arthur Lazarus and Messrs. Worden & Risberg; the former is digested in Section 7 of this chapter, and the latter in Section 1 of Chapter VII. The size of the present company building inspection activity is indicated by the fact that 337 men were assigned to the work as of January, 1952, accounting for a budget of approximately \$1,480,000 beyond the Fire Department budget total given in the table above.)

As stated, the Hutson study did not cover an analysis of *all* uniformed men—it was confined to numbers of land fire companies and men serving in day-to-day fire-fighting capacities in those companies. However, for purposes of perspective, the following figures on the *total number* of budgeted firemen are given. With average budgeted vacancies of 160, the net budget complement is 8,414 firemen. As of January, 1952, there were 362 on disabled lists, leaving an active complement of 8,052. The difference of 1,092 between this figure and the 6,960 given in the foregoing table is accounted for by the following:

Company Building Inspectors.....	337
Marine Division .....	221
Aides .....	199
Rescue Squad .....	84
Theater Detail .....	55
Water Tower .....	42
Other details, incl. Searchlight, Ambulance, Bridge, Chemical, etc. ....	154



A reduction in fire companies as proposed in the Hutson plan would naturally produce savings in rental, maintenance, and fuel charges for the abandoned fire houses. The exact extent of these economies has not been determined, but savings would be considerable. Likewise, of course, substantial capital budget savings would develop

by obviating the need for additional houses. Since any implementation of the plan would of necessity take time, and would have to be done in stages, the saving in manpower would ensue, not from forced retirements, but rather from the adoption of a stringent "hold-the-line" policy from here on, insofar as adding new men is concerned.

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## SECTION 2

# STATISTICAL ANALYSIS

BY

DAVID VALINSKY

Part I of this Report is complementary to the Report by A. C. Hutson, "Number and Distribution of Engine and Ladder Companies in the City of New York," published separately.

Parts II and III, however, carry the statistical concepts further, and lead to

a suggested program for continuing statistical work as a routine part of Fire Department planning. The technical methods and conclusions growing out of them are, of course, solely the responsibility of the present author.

## PART I

### A PROPOSED PLAN FOR ENGINE AND LADDER COMPANY DISTRIBUTION BASED ON A STATISTICAL INVESTIGATION

The proposed distribution as described in the Report, "Number and Distribution of Engine and Ladder Companies in the City of New York," by A. C. Hutson, goes far toward unifying the elements of all five Boroughs

into a single effective fire-fighting entity. No suggested change or elimination has been included which in any way sacrifices adequate protection.

#### The Plan: Its Formulation and Development

The proposed plan was one of cumulative development. It is in no sense

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Digest from "A Statistical Determination of the Distribution and Number of Engine and Ladder Companies in the City of New York," by David Valinsky, December 15, 1951.



merely a reshuffling of the present distribution of fire-fighting units in New York City, but a *new*, wholly scientific approach to the problem. Its conclusions were independently reached after most careful consideration of four separate areas of study.

The actual process of arriving at the final proposal was composed of the following major steps:

**A. An Analysis of Lineal Distribution—**The National Board of Fire Underwriters has set, as an acceptable standard of fire protection in any large city, a “lineal” distribution of engine and ladder companies. This term means that each type of company should be within the specified travel distance of every point in the district, measuring along the most direct street routes. The NBFU standards are as follows:

Type of District	Engine or Hose Company	Ladder Company
Mercantile or manufacturing	¾ mile	1 mile
Closely built residential	1½ miles	2 miles
Scattered residential	3 miles	3 miles

As a first step in the consideration of the proposed plan, the National Board’s recommendations were applied to New York, and a basic map was constructed with a company distribution designed not merely to meet but to exceed the Board’s requirements.

However, this set of standards is based primarily on the range of area to be protected with merely the broadest consideration of special characteristics. Obviously, in New York, with its high density of population and high concentration of structures, many special characteristics have greater significance than the spatial problem itself. It was recognized, therefore, that special and detailed study must be directed to such localized situations.

**B. An Analysis of Burnable Material—**The second step in the study involved a critical analysis of the physical characteristics of structures and the special hazards and fire proneness of their types of occupancy. *More than 36,000 blocks* in the five Boroughs of New York were minutely scrutinized and their characteristics plotted on maps.

This phase of the investigation made it evident that the distribution of companies arrived at by the preceding step was not totally adequate to meet the requirements of certain areas of abnormally high hazard, and therefore, additional companies were included for that purpose.

**C. An Analysis of Company Work Performance —**The third area considered involved a study of departmental data, and their subjection to many and varied statistical routines, to determine what *continuing availability* might be expected of companies tentatively placed by the first two steps.

Averages and minimum and maximum extremes of performance were analyzed; the relationship of unnecessary to working alarms was considered, area by area; the time consumed in runs was examined and averages and extremes determined and, as each situation developed, still more companies were added to the rapidly crystalizing picture of what finally would be required.

**D. An Analysis of Mass-Response Problems—**As the last link in the chain of fire protection was being forged, consideration was given to the remote problems of what *might* happen.

Area-by-area and hour-by-hour density of alarms was taken into consideration, and the historical and anticipated incidence of greater-alarm fires and



conflagrations evaluated. The statistical probabilities inherent in the total situation were then computed. Adequate provision was made to meet the probabilities by the last additions made to the plan of company distribution.

The four phases of study outlined summarize the approach to the problem. In order to explore each to its necessary limits, however, many separate factors required detailed study. Among these were:

- (1) Size of area to be protected.
- (2) Structural types and conditions.
- (3) Type of occupancy.
- (4) Sprinkler and fire-detection protection.
- (5) Vertical problems of structures.
- (6) Area accessibility and traffic patterns.
- (7) Response and work performance of companies.
- (8) High-alarm areas and mass response problems.
- (9) Population density.
- (10) Fire fatalities.
- (11) Interborough communication and coverage potentials.
- (12) Probabilities of extreme fire situations.

### **Physical Characteristics of Structures and Type of Occupancy in New York City**

At the outset it was recognized that only minute scrutiny block by block over the entire territory, could reveal many of the special characteristics which differentiate areas of like geographical proportions in their inherent risk content. Such minute scrutiny was actually given to the more than 36,000 blocks within the New York City limits. Physical characteristics, type of occupancy, and some factors of condition were plotted, block by block, on San-

born Maps, revised to within six months of the date of this Report. Within each block, wherever practicable, the individual structures were plotted, and in every case, each was separately examined and evaluated.

**Land Use Description**—As an example of the extreme detail in which the entire area was examined, the following general land-use definitions were appended:

(1) **PARKS, PLAYGROUNDS** and areas in which *no permanent structures* exist.

(2) **DWELLINGS** include large suburban residences, summer cottages, and urban houses of either one- or two-family type; semi-attached row houses; and city residences with party walls.

(3) **MULTIPLE DWELLINGS** include all dwelling places for three or more families, both walk-up and elevator. The term excludes hotels and resort hotels and institutions.

(4) **OFFICE, WAREHOUSE, and LOFT BUILDINGS** include fireproof and semi-fireproof office buildings, banks, telephone and telegraph offices and buildings; some types of industry outside the "heavy" industry classification; and storage yards with permanent structures.

(5) **HEAVY INDUSTRY** includes permanent structures wholly occupied by manufacturers such as machine shops, breweries, large-scale processors, etc. This classification also includes occupancy involving specific fire hazards.

(6) **COMMERCIAL and STORE BUILDINGS** include department stores; store buildings, restaurants, theaters, hotels, places of public assembly, commercial recreational facilities (such as swimming pools, clubs, etc.); stores in residential buildings; commercial garages and automotive sales and service establishments.

(7) **PUBLIC BUILDINGS and PRIVATE INSTITUTIONS** include



City, State or Federal property; religious buildings, welfare societies, schools, hospitals, cemeteries, libraries, museums, sanatoria, police and fire stations.

(8) **TRANSPORTATION** includes railroad stations and yards, terminals, subways, storage yards, subway right-of-way; piers and docks.

Where practicable, structures were separately analyzed by type. Frame, brick and fire-resistive types were recognized and included in the original map plotted.

In addition, certain special characteristics associated with land use were carefully gathered and included in the plotted presentation. Among these were: sprinklers, heights of structures, garages, banks, theaters, churches, schools, hospitals, libraries, museums, hotels, amusement places, warehouses, factory lofts, railroads, etc.

**How These Maps Were Used**—These completed maps made available for consideration much data which could not possibly be derived from any study of street or block maps, as such. They supplemented the field investigations conducted by Mr. Hutson and helped to eliminate the tendency to evaluate risks from purely exterior physical data. They present both a view of the City as a whole and a pin-pointing of its high-hazard areas.\*

### **An Analysis of Company Work Performance**

Company work performance relates to the *availability* of fire-fighting forces when need arises.

At first glance, it would appear that the known high correlation of numbers

of alarms with high-risk areas is in itself the measure of company work performance. And so it is in a sense, but *not* in a completely direct ratio. This is so because not all alarms require equal amounts of travel to and from the station; because fires differ in their nature and severity and thus require varying lengths of time for control; and because many alarms, varying by area, do not involve fire-fighting at all.

No *initial* distribution of companies is the total answer to providing adequate fire protection at all times. To initial distribution, whatever it may be, must be added the means of *continuing*, available forces for any possible combination of circumstances.

In such an area as Harlem, for example, where some companies respond to as many as 1,500 alarms per year, it is possible to ease the work load of the individual company and to increase the factor of protection by modifying the pattern of assignment to runs. Knowledge of the spatial and physical characteristics of the immediate territory makes this both possible and feasible and increases the anticipated efficiency of operation of New York's fire-fighting units.

**The Geographic Distribution of Work Performed** — Company locations were carefully plotted on a large-scale map of the five Boroughs of New York. For each company, the average number of runs per year, the average number of workers per year, and the total average amount of time per year spent at workers were also shown.

The base period employed for this phase of the study was the five-year interval from 1946-1950 inclusive, and, where year-to-year regularity of work was found, a simple arithmetical average was used. However, when inspec-

\*ED. NOTE: These maps have been turned over to the Municipal Reference Library by the Mayor's Committee on Management Survey. They are available for inspection.



tion of a company's records for this five-year period indicated that an upward or downward trend was developing, performance figures were obtained as far back as 1940 or earlier for additional study and exploration. If, after such study, an actual trend was demonstrated, the average used was one based upon the figures for 1949 and 1950 only.

**Number of Workers** — Study of the work performance of individual companies indicated an average of 24 workers per company per month.

It was recognized, however, that this average does not, in itself, constitute a reliable index to company availability in general, since it is necessarily the product of extreme ranges. The least-worked company in the five Boroughs, for example, averaged slightly less than two workers per month, while, at the other extreme, one company averaged 90 workers per month throughout the entire year.

While it is true that there is some monthly variation in these figures, study of that variation indicated that it was not sufficient to require separate analysis and that the average-per-month of each company could be used safely as the index to this step in the entire problem of company relocation.

**Ratio of Workers to Runs** — Under "alarms" must be included false alarms; requests for assistance in rescuing pets or children from problem situations; securing signs or copings which appear to be dangerous; and the thousand - and - one other things for which citizens call the Fire Department —and which the Department classifies under the general head of "Unnecessary Alarms."

The ratio of workers to runs (a run must be made in response to any alarm) is important, therefore, in es-

tablishing availability. For the purpose of this study, it was found sufficient to compute that ratio merely by dividing the average number of workers by the average number of runs.

These computations revealed that the company with the lowest ratio of workers to runs averaged only 18 percent while that with the highest reached 99 percent. The average for all engine companies was found to be 50.3 percent — about one out of every two runs made —while that of ladder companies was 63 percent.

**Time Consumed at Workers and Time Out of Quarters** —The last steps in this phase of the study of company availability deal both with time out of quarters and time spent actually at work on fires. There is a marked difference in these two situations so far as availability is concerned, since with two-way communications it is not necessary for a company to *return* to quarters before again becoming available after an alarm response.

The average amount of time consumed by engine companies at workers is 29.2 minutes, and the average time out of quarters for *all* runs is 25.4 minutes. It is apparent that, regardless of the *cause* of alarm, any run made by a fire company will probably keep that company out of quarters for 20 minutes or more.

While this section of the study was undertaken originally to supplement the portions dealing with lineal distribution and physical characteristics to determine the need for *more* company locations, its end result has, in general, tended to show that some reduction in the number of companies is quite feasible without affecting adequate availability of fire-fighting forces at all — especially in the light of the higher effi-



ciency to be gained through the use of two-way communications.

**Fire Incidence by Time and Borough—**Naturally, any attempt to distribute fire companies efficiently must be predicated on some knowledge of the actual times and places at which fires occur.

The months of March, June, September, and December, 1950 were selected for special analysis, as being adequately representative of the seasonal variations which are known to exist in fire incidence.

Every fire reported during the sample period was plotted for every hour of every day, by Boroughs. Naturally, day-by-day variations were found and all extreme days were noted and given special consideration as planning proceeded. The fact that total fires are found to peak sharply at 5 P.M. is found to be reasonably true in all Boroughs, and distribution plans must therefore, be made with such peaking in mind—not merely because of the numerical increase in alarms at that time, but because they occur simultaneously with a similarly high increase in local traffic in many parts of New York.

### **An Analysis of Mass Response and Density of Alarms**

In the final area of investigation in this phase of the study of fire company relocation, the following factors were given critical consideration:

(1) *Distribution of greater alarms*, with special attention to such contributing factors as type of occupancy, time of day, area, etc.

(2) *Fire seriousness*, as measured in terms of property loss and damage.

(3) *Fire fatalities*.

(4) *Probabilities* concerned with extreme fire situations.

**Distribution of Greater Alarms —**An examination of greater alarm fires over

an extended period revealed that a period beginning with January 1, 1946, and extending through the first six months of 1951, would be sufficient as a basis for detailed study.

Accordingly, as a first step, a map of the five Boroughs was prepared with every greater alarm fire identified by location and magnitude.

Year after year, there are certain areas which are particularly prone to fires of higher magnitudes. In Manhattan, for example, Harlem, Lower Manhattan and the Lower East Side have had such continuing histories. However, in some of these sections—Harlem and the East Side, notably—recent changes in structural types, with the gradual elimination of Old Law tenements, are accompanied by a discernible *downward* trend in greater alarm fires.

**Fire Seriousness—**Currently, New York City has an average of slightly more than 44,000 fires per year. They are responsible for an average loss of approximately \$20,000,000 annually. However, 70 percent of these fires result in losses of less than ten dollars each, while slightly more than 1 percent of fires are responsible for slightly more than 69 percent of total losses.

Other ranges show that slightly less than 20 percent of all fires cause 99 percent of all losses; slightly more than 5 percent of them cause slightly more than 88 percent of total loss, and that .1 of 1 percent of all fires accounted for more than 29 percent of the total loss.

Two major conclusions are evident from a study of these figures. First, fire company distribution must be so planned that the vast majority of fires, which currently result in virtually no losses, continue to be dealt with promptly and efficiently to prevent their spread into major conflagrations; sec-



ondly, mass response must be provided to meet with equal efficiency those more serious fires which account for most losses and which, if not promptly checked, might well develop into major disasters.

**Fire Fatalities**—As in the handling of other important data, maps were plotted to discover the concentration and distribution of deaths caused by fire in all Boroughs of New York during the five-year period from 1946-1950.

Loss of life in fires is closely related to the physical characteristics and the already established fire proneness of certain limited areas. The high concentration of life loss in Harlem, on the Lower East Side, and in the Old Law tenements of Hell's Kitchen area of Manhattan's West Side are striking evidence of such correlation. They give, too, a hopeful indication that fatalities will show a steady downward trend as such structures are eliminated and replaced by the fire-resistant types now being built.

As in the preceding factor, fire fatalities were also analyzed by type of occupancy, time of occurrence, seasonal patterns, building heights, and fire seriousness.

**An Examination of Multiple Alarm Probabilities**—It was decided to investigate the extreme probabilities of the simultaneous occurrence of multiple alarm fires in order to test the adequacy of the proposed plan in that area.

To this end, the occurrence of more than one multiple alarm signal within any 3-hour period was deemed to constitute simultaneous occurrence and the 5-year period from 1946-1950, inclusive, was examined for whatever experience it might yield.

From the 14,600 separate 3-hour periods thus set up, theoretical distribu-

tions, closely fitting the experience records, were plotted in order to provide a basis for projection. Poisson\* distributions, scientifically established and accepted, were used for this purpose whenever they were applicable. Where they were not applicable, curves based on experience were substituted.

Within the five Boroughs, the probability of the simultaneous occurrence of two five-alarm fires is only once in 76 years. This is a possible situation which could be met under the present plan—and probably represents the extreme limits which should be considered in planning for a city as fluid and changing as New York.

### The Plan in Operation

Since the plan offered in this Report and in the Hutson Report is intended to provide a practical solution to the problems enumerated, it became necessary to see how it would serve in extreme situations as well as in normal operation.

In an effort to subject the plan to test under a variety of the *worst possible situations which might be met*, the Fire Department was asked to determine which, in its opinion, constituted the most serious situations which have arisen during the past ten years. The three most serious situations which were presented are here analyzed in relation to the plan:

**A. Fire Situation, November 25, 1950, 4:03 P.M.**—This was, in one respect, a nonrealistic situation from an actual fire-fighting viewpoint. Winds of hurricane force had swept down on New York early in the day, leaving in their

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\*The Poisson distribution is a mathematical series which may often be used to describe the expected distribution of data of discreet nature where  $p$  (or the probability of an event) is very small, but where a large number of cases or trials,  $n$ , are taken.



wake extremely difficult flood and storm conditions which fire companies were called upon to meet.

The following greater alarm calls were recorded:

2-Alarm Fire in Queens . . . . 9:58 A.M.  
(all companies detailed had returned to quarters prior to 4:03 P.M.)

3-Alarm Signal in Richmond 8:42 A.M.  
(No fire was involved here, but Richmond companies were supported by Manhattan forces to deal with evacuation problems caused by flood conditions.)

5-Alarm Fire in Brooklyn . . 2:25 P.M.

Throughout the day, in all Boroughs, there were, of course, the normal number of single-alarm signals which had to be dealt with.

A summary of available forces at the time indicated is given in the table which follows:

**FIRE SITUATION, NOVEMBER 25, 1950, 4:03 P.M.**

Availability of Engine and Ladder Companies										
If Plan Proposed by A. C. Hutson Were in Operation										
4 Boroughs			Manhattan		Brooklyn		Bronx		Queens	
	Eng. Lad.	Eng. Lad.	Eng. Lad.	Eng. Lad.	Eng. Lad.	Eng. Lad.	Eng. Lad.	Eng. Lad.	Eng. Lad.	Eng. Lad.
Available—										
In										
Quarters	103	24	20	5	38	8	15	3	30	8
Available—										
At Unnec.										
Alarms	54	53	25	22	12	12	8	11	9	8
<hr/>										
TOTAL	157	77	45	27	50	20	23	14	39	16

**B. Fire Situation, January 31, 1948, 3:22 P.M.**—This situation arose through the simultaneous occurrence of a 5-

alarm fire in Manhattan and a number of lesser alarms throughout the four Boroughs. The 5-alarm fire, itself, required the services of both Manhattan and Brooklyn companies, thus presenting an example of the sort of inter-borough coverage the proposed distribution provides.

**FIRE SITUATION, JANUARY 31, 1948, 3:22 P.M.**

Availability of Engine and Ladder Companies														
If Plan Proposed by A. C. Hutson Were in Operation														
4 Boroughs			Manhattan			Brooklyn			Bronx			Queens		
			Eng. Lad.			Eng. Lad.			Eng. Lad.			Eng. Lad.		
Available	138	75	18	13	48	27	24	15	48	20				

Only two areas, Lower Manhattan and Upper Brooklyn, were seriously affected by this situation. Closer examination of assignment schedules appears to be required to provide a balanced distribution of available companies. This could, of course, be assured by some deployment of companies out of service to strategic points vacated by companies in service.

**C. Fire Situation, October 7, 1951, 9:53 P.M.**—The effect of a large series of continuous one-alarm fires in a localized area is measured here. Brooklyn was the area affected, and in all other Boroughs no special requirements existed. At the time indicated, only a few companies were out of quarters in these Boroughs for any purpose—so few that it was felt unnecessary to plot the information.

The actual number of each type of company still available in Brooklyn for additional alarms if the Hutson plan were in operation is shown below:

Brooklyn	Engine Companies	Ladder Companies
Companies available	41	15



PART II

STATISTICAL PROCEDURES USED IN COMPANY RELOCATION

The Predictability of Fire Incidence by Area

Since it was recognized that this phase of investigation is primarily exploratory, it was felt unnecessary to extend the examination into all Boroughs of the City. The Borough of Manhattan was therefore selected as best suited for these evaluations, and the findings which follow are based upon the evaluations of data compiled within it.

**Classification of Burnable Property—**Through the co-operation of the City Planning Commission, a set of IBM Land Use cards was obtained for every block in the Borough of Manhattan. These cards establish 13 major land use categories in terms of thousands of square feet occupied by each within each block. (These classifications are, in effect, identical with those employed in the analyses contained in Part I of this Report.)

The Land Use cards were found extremely valuable, both in the general

appraisal of the problem and in some detailed special studies.

It seems fitting to suggest, in passing, that any future preparation of cards for Land Use investigation should, however, include the factor of building height.

**Computation of a Total Fire Hazard Index—**In preparation for the computation of a total Fire Hazard Index, the Land Use classifications discussed just previously were first combined into eight working groups. This was achieved by eliminating certain classifications such as Vacant Land and Parks and Playgrounds as not constituting hazards within the terms of this definition, and by combining certain other classifications into single groups.

Data dealing with all fires in Manhattan over a five-year period were then analyzed to determine the average number of fires by each type of occupancy, and from this determination, a Manhattan Fire Hazard Index was computed in two separate fashions.

The first method of computation, called Fire Hazard Index A, was computed as follows:

$$\text{INDEX A} = \frac{\text{Area in 100,000 sq. ft. by Type of Occupancy}}{\text{Average No. of Fires per 5-Year Period}}$$

This index expressed the ratio in terms of the number of 100,000 sq. ft. occupied by any type of land use which is required to produce one fire over a five-year period.

The second method of computation, called Fire Hazard Index B, expresses the same factors in terms of the number of fires occurring over a five-year period in each 100,000 sq. ft. for any type of occupancy. It was computed as follows:

$$\text{INDEX B} = \frac{\text{Average No. of Fires per 5-Year Period}}{\text{Area in 100,000 sq. ft. by Type of Occupancy}}$$



INDEX B is probably more readily understandable as a direct reflection of fire hazard, but INDEX A was found to be more convenient for use in compiling the predictions. The following table shows the findings of both methods:

CALCULATION OF FIRE HAZARD INDEXES

Type of Occupancy	Acreage (Thousands of Sq. Ft.)	Average Number of Fires per Year	Fire Hazard A <sup>1</sup>	Indexes B <sup>2</sup>
1 & 2 Family Dwellings .....	10,498	126	83.3	1.1%
Multiple Dwellings .....	131,116	5,759	22.8	4.4%
Office & Store Buildings .....	24,263	468	51.8	1.9%
Warehouses & Lofts .....	35,240	729	48.3	2.1%
Auto Storage & Service .....	11,413	68	167.8	.6%
Heavy Industry .....	5,489	104	52.8	1.9%
Public Buildings .....	56,933	126	451.8	.2%
Transportation .....	14,723	229	64.3	1.6%

<sup>1</sup> One fire for each "X" sq. ft. of type of occupancy. (X expressed in terms of thousands of sq. ft.)

<sup>2</sup> Percent of a fire for each 1,000 sq. ft. of type of occupancy.

**The Geographic Distribution of Fire Hazards**—The City Planning Commission, in the course of its own operations, has divided the Borough of Manhattan into 12 Planning Districts. These districts, ranging from 12,000 to 250,000 population, were all designed to contain multiples of whole Census Tracts and all Manhattan's Census Tracts are included within them.

By scientific, random selection, five tracts were obtained from each Planning District. This sample of 60 tracts thus assembled automatically provided an excellent geographic distribution. It also insured proper representation of areas by types of occupancy. It was recognized that complete, definite data might not be available for every Census Tract comprising the gross sample, however, and provision had to be made for this contingency. A *net* sample, consisting of four of each original set of five tracts, was accordingly selected by the same procedure originally employed. The resulting 48 tracts became the group assigned for special study.

For each of the 48 tracts, the actual

number of fires occurring in each year of the five-year period from 1946 to 1950, inclusive, was then tabulated. Through the use of the Land Use cards previously described, the actual composition of each tract, block by block, was then established by types of occupancy in thousands of sq. ft. and these data were summarized.

The next step was to divide the total square footage of each type of occupancy by the Fire Hazard Index "A" for that type of occupancy. The sum of the total indexes within each tract was then taken to produce a *Total Fire Hazard Index* for that complete tract.

**Establishment of Relationship of Fire Frequency to Other Factors** — Having established Fire Hazard Potential for each selected tract in terms of a numerical value, it was next necessary to correlate that factor with other pertinent data.

Various possible contributory factors were carefully examined in preparation for the development of a formula which would produce a valid Index to Fire Incidence. Population density, verticality,



the number of Old Law tenements were all included in this preliminary appraisal.

The formula, as finally developed, represents a compromise in one respect, as a consideration of its terms will show. It is obvious that additional refinement could have been gained by the inclusion of separate values for Old Law and New Law tenements and height of buildings. Unfortunately, information on these distributions could not be obtained within the time allotted to the program, and the deficiency thus created was partially corrected, therefore, by the inclusion of a term showing the relationship between population density and acreage rental for each area, to provide a socio-economic index.

Population density alone is not sufficient. Harlem and Middle Park Avenue, for example, are both areas of high pop-

ulation density, yet their obvious socio-economic differences are reflected very definitely in their respective fire proneness. The formula carries its own adjustment factor in the term  $X_3$ , which divides Population Density by Average Rental. Thus, the high population density of Park Avenue divided by the area's high rental yields one value while Harlem's equally high density, divided by a much lower average rental, yields a relatively higher value.

The final factor found necessary to include in the formula is the number of commercial and manufacturing establishments per tract. This is important because a given area occupied by a single manufacturing plant is very likely to have far fewer fires per year than the same area occupied by a large number of similar, though smaller manufacturers.

The Fire Incidence formula, therefore, as finally developed, is as follows:

$$\log Y = \log a + X_2 \log b_2 + X_3 \log b_3 + X_4 \log b_4$$

where,  $Y$  = Fire Incidence

$X_2$  = Fire Hazard Potential

$X_3$  = Socio-Economic Index

$X_4$  = Commercial Manufacturing Establishments

and,  $a$  and  $b$  are constants.

The data and steps thus far described were essential to the computation of the following measures for fire predictability:

- (1) An estimating equation for general prediction purposes.
- (2) A measure of degree of relationship; i.e., an Index of multiple correlation.

The estimating equation was reached by the least squares method for the solution of a series of simultaneous normal equations computed from the data. Its form is as follows:

$$\log Y = .74363 + .1789 X_2 + .0038 X_3 + .0024 X_4$$

The Index of multiple correlation, expressing degree of relationship, gives the value:

$$\rho = .784$$

$$\rho^2 \text{ (the Index of Multiple Determination.)} = .615.$$



This means that the three factors employed are successful in explaining 62 per-cent of the variance of fire incidence. Additional refinement of the technique, or perhaps the inclusion of additional variables, would result in the reduction of the unexplained percentage of variance.

Through the insertion of appropriate numerical equivalents for the term of the above formula, fire incidence may be predicted tract by tract.

## Fire Proneness in Relation to Type of Occupancy

Obviously, if there is a marked vari-ance between the susceptibility to fire of various types of occupancy, that fact has a basic bearing on the entire prob-lem of fire company distribution and relocation. There are two principal areas in which knowledge of such vari-ances in fire proneness is particularly important.

(a) *Increased Protection* must be provided wherever there is a high in-cidence of types of activity or build-ing occupancy which are known to have a high fire incidence—or tend-ency thereto.

(b) *Fire Prevention and Control* can be utilized to reduce risk through increased inspection and rigid en-

forcement of fire prevention methods in such areas of high fire proneness.

Just as accident proneness has been studied among individuals and indus-tries, an attempt was made to establish fire proneness and to reduce the find-ings to terms of a fire hazard ratio for various types of occupancy.

Toward this end, every building in the city was classified by type of occu-pancy. Logically, *the value of burnable property* represented by each such type should be obtained by cumulating the estimated valuation of each building within each classification.

Next, every fire loss and every build-ing damaged by fire should also be clas-sified by the types of occupancy already set up. Total number of fires and *total* dollar loss could then be determined for each classification by simple addition.

The first step of this total procedure was followed for every fire reported during the 5-year period from 1946-1950. From the data, an actual index of Fire Prone-ness was constructed for each Type of Occupancy, as follows:

$$\text{A. Fire Proness Index} = \frac{\text{Avg. No. of Fires in Bldgs. of Class} \times 1,000}{\text{Total No. of Bldgs. in Classification}}$$

ILLUSTRATION: (Fire proneness Index for Tenements)

$$\text{Fire Proneness Index} = \frac{11,911}{145,008} \times 1,000 = 8.2 \text{ fires per year for each 1,000 tene-ment structures.}$$

Ideally, a Fire Loss Index could be constructed through this formula:

$$\text{B. Fire Loss Index} = \frac{\text{Total Dollar Loss in Bldgs. of Class} \times 1,000}{\text{Total Value of Bldgs. in Classification}}$$

Currently, the Fire Loss Index is necessarily a theoretical concept only, because of insufficient data on building evaluations per se, and because no valid data are available on the value of building contents.

Obviously, utilization of the two indexes developed here makes possible the deter-mination of ratios between Fire Proneness and Fire Loss for every specific type of



occupancy. Thus, it is wholly practicable to compare, in common terms, the hazards inherent in automobile showrooms, for example, against gasoline service stations — men’s clothing manufacturers versus women’s wear manufacturers—in practically endless series.

Below is shown the actual Fire Proneness Index for a selected group of available occupancy classifications. In Part III of this Report, a revised system of classification is suggested that would make possible the construction of Fire Proneness Indexes for every structure in New York.

**FIRE PRONENESS INDEX FOR SELECTED BUILDING AND BUSINESS OCCUPANCIES,  
ALL BOROUGHES, NEW YORK**

**1950**

BUILDING OCCUPANCY		BUSINESS OCCUPANCY	
Type	Ratio of Fires to 1000 Structures	Type	Ratio of Fires to 1000 Structures
Dwellings .....	.8	Printing & Publishing .....	1.5
Tenements .....	8.2	Paper & Allied Trades .....	3.8
Warehouses .....	9.3	Men’s Suit Factory .....	1.9
Factories .....	6.9	Textile Mills .....	3.5
Garages .....	1.4	Grocery Stores .....	1.8
Hotels .....	36.1	Restaurants .....	4.2
Theaters .....	9.0	Men’s Clothing Manufacturer .....	4.7
Store Buildings .....	1.4	Drug Stores .....	1.4
Loft Buildings .....	10.6	Tailor Shops .....	1.1
Churches .....	1.8	Barber Shops .....	.2

SOURCE: Bureau of Fire Investigation, Fire Department of the City of New York.

**Probabilities of Multiple-Alarm Fires**

In every instance in which it was found applicable, the Poisson series was used as the basis of estimate and prediction in this important area of fire company location and distribution. Since its development in 1837, this probability distribution has been a useful and accepted tool of statistical prediction. A practical mathematical series, it has often been used to describe the expected distribution of discrete data where p (the probability of an event) is extremely small, but where a large number of trials or cases (n) are available. This series is particularly useful in the solution of many projection problems that arise in Biometrics, Insurance and Industrial Quality Control.

The expected number of occurrences during a 5-year period may be seen in Column 3 below, in which the probabilities shown in Column 2 have been multiplied by 1826 (number of days in the 5-year period).

**EXPECTED NUMBER OF MULTIPLE ALARM  
FIRES PER DAY IN ALL BOROUGHES**

Number of Greater Alarms per Day	Probabilities of Greater Alarms	Expected Number Frequencies of Occurrence
0	.6187830	1129.9
1	.2970158	542.4
2	.0712838	130.2
3	.0114054	20.8
4	.0013686	2.5
5	.0001314	.2
6	.0000168	.02
7	.0000007	.001
Total	1.0000055	1826.021



### Agreement Between Poisson Distribution and Observed Number of Occurrences—

Whether or not the Poisson Distribution can be used may be measured by testing the fit of its curve to the curve of observed events.

If there were perfect agreement between the observed and expected frequencies, the values of each Chi-Square calculation would be 0. As discordance increases, the size of the Chi-Square also increases, indicating that agreement due to chance becomes less and less probable.

In Part I of this Report, concern was also felt for the probability of the simultaneous occurrence of multiple-alarm fires within the five Boroughs. In the case of five-alarm fires, the Chi-Square test indicated sufficiently close agreement between observed and expected frequencies to establish a good fit for the Poisson Distribution curve.

In the case of multiple alarms of any size, the Chi-Square test resulted in the

necessity of discarding the Poisson Distribution as a poor fit. Here, therefore, actual experience curves were substituted as providing the most valid basis for prediction.

The preceding statistical analyses lend credence to the conclusion that the factors observed, such as occupancy, type of construction, height, area of building, congestion of blocks, and values, etc., do have a definite and often *measurable* effect on fire frequency and fire magnitude. Many other areas were investigated such as topography, natural and artificial barriers or breaks, ability to concentrate response of companies or obtain outside aid, the financial burden upon a city in the construction of fire stations, and other features requiring actual knowledge of the community. Some of these were given major consideration by the author of the present Report and by A. C. Hutson in his Report.

## PART III

### FIRE REPORTING SYSTEM

The four subjects discussed in Part III may be summarized under the following broad heads:

(1) The proposed establishment of a Statistical Control Unit, to continue and expand the work of statistical analysis which the present program has begun.

(2) The design and installation of an elementary mechanical control system, to serve as a useful and necessary tool of the Control Unit.

(3) The standardization and streamlining of reports on fires.

(4) Some specific recommendations for major investigations which might be undertaken in the future, and some suggestions for continuing sur-

veys that the proposed Control Unit could provide.

The plan of fire company distribution which has heretofore been suggested is believed to be a safe, logical, and efficient one for the City's current needs. But it would be foolhardy to say that this plan must serve until a future, fixed date and should then be totally revised. Relocation should be a continual process, as shifting neighborhood and community characteristics dictate. And, if it is to be so, the function of control must also be a continuing one.

The Control Unit should be concerned with the collection and processing



of data to serve departmental executives concerned with policies, organization, procedures and progress.

Toward this end, five steps should form the Control Unit's policy. These steps are: (1) to find out what has happened; (2) to determine causes; (3) to determine corrective action; (4) to prepare recommendations; and (5) to follow up.

Actually, in proposing to establish a Statistical Control Unit, no new section or department is contemplated. What is proposed is to *extend* the limits of the area now being served by the present Analytical Unit.

The Fire Department itself currently maintains a fairly adequate reporting system and operates data files designed primarily to provide activity summaries for the Annual Reports. But, under the limits of its present operation, it cannot make proper use of this material.

**The Current Fire Reports System** — A constant flow of extremely valuable data on every fire occurring in New York now emanates from two separate sources: (1) the reports taken by the first due battalion chief and all company commanders responding to any alarm; and (2) the simultaneous reports filed by the Fire Marshal's Office.

The Battalion Fire Card, in addition to a great deal of other valuable and pertinent information, contains the following data which is basic to fire control and prediction: (1) exact location; (2) time of alarm; (3) companies responding; (4) duration of fire; (5) time on duty at fire; (6) time out of quarters; (7) degree of damage to structure, by type; (8) extent of fire; (9) type of structure; (10) height of structure; (11) type of occupancy; (12) number of alarms; and (13) injuries and fatalities.

To this information the Fire Marshal's report on each fire adds the following: (1) damage to structure, in dollars; (2) damage to contents, in dollars; (3) occupation fires in building; (4) previous fires in building; (5) previous fires sustained by occupant; and (6) cause of fire.

It is obvious that this reporting system contains an enormous body of facts which might be analyzed for control purposes. To so utilize it, however, it must be maintained in a flexible, accessible form. An IBM card system is suggested for that purpose.

**The Proposed Mechanized Control System** — The proposed IBM system is predicated, and totally depends upon, the continued maintenance of the present basic card reporting system described above. From these cards, all pertinent data would be translated in terms of numerical codes and punched into IBM cards. Every operation planned for subsequent use of the cards can be carried out on an IBM Card-Counting Sorter.

In addition to tabulated material, the Control Unit would also be expected to translate such data into usable, easily understood Control Charts.

**Cost of Proposed System**—The actual cost of the mechanical equipment required to implement such a Control Unit as has been described is as follows:

1 No. 026 Printing Punch	\$ 55 per mo.
1 No. 082 Card-Counting Sorter	60 per mo.
TOTAL	\$115 per mo.

*(If a Printer Tabulator should be required for the occasional preparation of some reports, it could be borrowed from other municipal departments.)*



The personnel required to operate the entire IBM system would consist of one trained fireman-clerk assigned to the Control Unit.

**Organization of the Proposed Control Unit**—The Control Unit should be headed by a captain or battalion chief who would be classified as Chief Control Officer. Training as a management expert or industrial engineer would further equip him for the operation and would permit him to deal with the necessary problems of administration, organization, and policy.

In addition to the IBM technician already suggested, the Control Unit staff should include three other members: a statistician, a draftsman, and a statistical clerk-typist.

The Control Unit would report directly and jointly to the Fire Commissioner and to the Chief of Department. As directed by these executives, it would make available to indicated departmental officers such charts and data as would assist each in the administration of his office.

**Revision of Fire Reports**—Three reports in particular provide good working examples of what may be done to improve the usefulness of many of the Fire Department's present reports. These are: (1) Character of Buildings in Which Fires Occurred and Their Points of Origin; (2) Classification of Business Fires; and (3) Character of Stores in Which Fires Occurred.

Individually these reports serve the purpose for which they were designed. They lack, however, the intercontinuity and cohesion that would provide maximum benefits from their combined use.

The revision of the report forms which is here visualized would redesign them under the following heads:

1. Classification of Fires by Types of Occupancy.

2. Classification of Fires by Manufacturing Establishments.

3. Classification of Fires in Mercantile Establishments.

Basic classification codes, which would yield the intercorrelation of data previously mentioned, were transmitted to the Fire Department. The major classifications covered were:

*Classification of Fires by Types of Occupancy*

- (1) Dwelling occupancies.
- (2) Public buildings.
- (3) Mercantile.
- (4) Manufacturing.
- (5) Miscellaneous buildings.
- (6) Other than buildings.

*Classification of Fires —  
Manufacturing Establishments*

- (1) Food and kindred products.
- (2) Tobacco manufacturers.
- (3) Textile mill products.
- (4) Apparel and related products.
- (5) Lumber and products, except furniture.
- (6) Furniture and fixtures.
- (7) Paper and allied products.
- (8) Printing and publishing industries.
- (9) Chemicals and allied products.
- (10) Petroleum and coal products.
- (11) Rubber products.
- (12) Leather and leather products.
- (13) Stone, clay, and glass products.
- (14) Fabricated metal products.
- (15) Machinery (except electrical).
- (16) Electrical machinery.
- (17) Transportation equipment.
- (18) Instruments and related products.
- (19) Miscellaneous manufacturers.

*Classification of Fires —  
Mercantile Establishments  
Retail Trades*

- (1) Food group.
- (2) Eating and drinking places.



- (3) General stores.
- (4) General merchandise group.
- (5) Apparel group.
- (6) Furniture, furnishings, appliance group.
- (7) Automotive group.
- (8) Gasoline service stations.
- (9) Lumber, building, hardware.
- (10) Drug and proprietary stores.
- (11) Liquor stores.
- (12) Secondhand stores.
- (13) Other retail stores.

#### *Wholesale trades*

- (1) Merchant wholesalers.
- (2) Farm products (edible).
- (3) Beer, wines, distilled spirits.
- (4) Drugs, chemicals, allied products.
- (5) Tobacco and products (except leaf).
- (6) Dry goods, apparel.
- (7) Furniture, home furnishings.
- (8) Paper and its products.
- (9) Farm products (raw materials).
- (10) Electrical goods.
- (11) Hardware, plumbing, heating.
- (12) Lumber, construction materials.
- (13) Machinery equipment and supplies.
- (14) Metals, metal work (except scrap).
- (15) Waste materials.
- (16) Other merchant wholesalers.
- (17) Petroleum bulk stations, terminals.
- (18) Assemblers (mainly farm products), total.

#### *Service trades*

- (1) Personal services.
- (2) Business services.
- (3) Automobile repair services and garages.
- (4) Automobile services (except repair).
- (5) Miscellaneous repair services.

#### *Amusements*

- (1) Motion picture theaters.
- (2) Bowling alleys, billiard and pool parlors.

- (3) Race tracks.
- (4) Dance halls, studios, and schools.
- (5) Stadiums and athletic fields.
- (6) Beaches, golf courses, and riding academies.
- (7) Skating rinks.
- (8) Swimming pools.
- (9) Theaters.
- (10) Miscellaneous amusement and recreation services.

### **Other Investigations**

The range of areas and the number of investigations which might be conducted within them under the proposed plan are almost limitless. However, some primary studies of immediate import and significance may be touched on briefly here.

(1) An extension of the study of Fire Predictability, done on a pilot basis in Manhattan only, should be continued to include the other Boroughs.

(2) The preliminary studies of fire proneness by type of occupancy and business should be expanded to explore all types of commercial and industrial classifications.

(3) Some attempt should be made to measure fire loss in terms of dollars for each of these classifications.

(4) Company assignments should be the subject of constant and continuing re-examination in relation to such factors as company work performance, density of alarms, and other areas of mass response problems.

(5) Attention should be given to the continuing problems of population migration and the changing composition of New York's many neighborhoods and areas.

To such basic concepts as these may be added the scores of other significant explorations which the needs and experience of departmental executives will suggest.



## SECTION 3

**APPARATUS AND HOSE**

This document\* is based on the findings of the Steering Committee of the Advisory Panel on Fire Equipment, which were arrived at after seven meetings of the Steering Committee and one meeting of the full Panel, held during the months of April through November, 1951, together with subsequent mail contact with the full Panel, meetings by Headquarters Staff and engineers with Fire Department officials and others, and intervening work by the Steering Committee members.

The Steering Committee had representation from four of the important City agencies concerned—the Fire Department, the Bureau of the Budget, the Comptroller's Office, and the Department of Purchase. The men serving were all officials of long service and

high responsibility in their departments. Among the advisory engineers, one had 40 years' experience as engineer with the National Board of Fire Underwriters, and another was former chief of the New York City Fire Department. It is to be emphasized that the recommendations that follow are based on long familiarity with the basic problems involved.

The manufacturing members of the Panel were drawn from recognized firms that are familiar with New York City's needs. While their contribution was of most significance with respect to questions on equipment developments and on specifications, covered in another document,\* they also reviewed the findings set forth herewith.

**REQUIREMENTS UNDER HUTSON PLAN  
AND EXISTING COMPANIES**

Since the Steering Committee of the Panel considers the basic plan of numbers and locations of companies a policy matter beyond its province, it has drawn up a set of alternative recommendations as to equipment modernization, based respectively on the Hutson and the Fire Department quotas.

Briefly, Mr. Hutson recommends 200 engine companies and 99 ladder companies, against the Fire Department's present strength of 221 engine companies and 127 ladder companies. However, his alignment of apparatus differs also, both in size and special assignments, and this affects the final character of the companies. Also, the Fire Department, in its own desired pro-

\*Digest from Document No. 110, prepared by Headquarters Staff, Mayor's Committee on Management Survey, January 28, 1952. Panel membership is shown in the general listing at the beginning of Volume I.

\*ED. NOTE: Document No. 100, October 22, 1951; digest on p. 751.



gram of apparatus replacements and additions, would change the present alignment of apparatus significantly in the ratio of 1,000-gpm. pumpers to 750-gpm. pumpers and in the hose-tender coverage.

The chief differences will be with respect to pumpers, hose wagons and hook and ladder trucks, since Mr. Hutson does not seek to change requirements for water towers and miscellaneous equipment, except that he does recommend five, instead of the present one, foam supply units, one for each Borough.

### **"Yardstick" for Top Limit of Protection**

At early meetings of the Steering Committee and the Panel, the question was raised as to what should guide us in calculating the top limit of fire protection. Should requests for more and more equipment be honored by lay policy-makers, because civilians cannot take the responsibility for extinguishment? Where should the attempt at protection stop?

Absolute protection cannot be guaranteed. The tangible basis upon which to calculate apparatus needs is the number of fire companies to be established to make possible competent handling of a serious fire situation simultaneously in each Borough, with reasonable reserves for run of the mine protection in addition. That is the basis on which both the Hutson and Fire Department lineups are built, the difference of opinion hinging on the protection afforded serious situations by the company alignments proposed.

In connection with the recommendations below, it should be kept in mind that they are made quite specific in order to furnish a definitive guide. However, it is appreciated that no program

for the Department over the next ten years can state precisely how many pieces of equipment of a given size and type should be purchased in a given year. For example, the Fire Department has a capital request for several new houses. If approved, these would call for adjustments upward for several additional new pieces of apparatus, or slow down the taking out of service of old pieces.

The existing situation as of August 6, 1951, is the "bench mark" from which the recommendations are computed.

### **Pumpers (See Table I)**

**Present Situation**—As of August 6, 1951, the Fire Department total strength was 267 pumpers, with 20 750-gpm. pumpers on order, scheduled for delivery in 1951. Of the 287 (including the 20 on order), 133 pumpers were 1,000-gpm., 80 were 750-gpm., 71 were 700-gpm., and 3 were 500-gpm.

Of the above, 7 1,000-gpm., all over 15 years old, and 46 700-gpm., all over 20 years old, are emergency replacement problems. The balance of 25 700-gpm. are in poor to fair condition, and the Fire Department would like to replace them as soon as possible with 750-gpm.

**Ultimate Objectives**—The Fire Department's stated aim is ultimately to use pumpers as hose tenders. This policy is concurred in by the Mayor's Committee engineers. Such a setup would eliminate the need for extra reserves, and the Department's calculation of ultimate requirements as stated to the Steering Committee of the Panel would thus be 75 1,000-gpm. and 321 750-gpm.

The 321 750-gpm. figure is arrived at by calling for 133 pumpers as hose tenders (the Department wants to raise



Table I — PUMPER REQUIREMENTS COMPARED

PLAN A

(Based on Fire Department Plan of Companies. *Ultimate requirements:* 75 1,000-gpm.; 321 750-gpm. Total Pumpers: 396)

**Recommendation No. 1:** The Fire Department should standardize ultimately on two sizes of pumps — 750-gpm. and 1,000-gpm.; and should standardize on centrifugal type.

**Recommendation No. 2:** The Fire Department's LONG-RANGE POLICY should be the elimination of hose wagons, and the use of 750-gpm. pumps as hose tenders. However, this should be followed in transitional steps over the next ten years as indicated below.

**Recommendation No. 3:** For PURCHASE PROGRAM, YEARS ONE AND TWO, the Fire Department should take out of service the 7 poor-condition 1,000-gpm. pumps, all over 15 years old, as listed August 6, 1951; and should also take out of service 46 poor-condition 700-gpm. pumps, all over 20 years old, as listed August 6, 1951. These should be replaced with 53 750-gpm. pumps. (It is understood that purchase requests for 12 of these were approved on July 18, 1951.)

*Strength as a result of the above:*

- 126 1,000-gpm.
- 133 750-gpm.
- 25 700-gpm.
- 3 500-gpm.
- 287 Total (This includes the 20 750-gpm. on order as of August 6, 1951.)

**Recommendation No. 4:** For PURCHASE PROGRAM SPREAD OVER YEARS THREE, FOUR, AND FIVE, the Fire Department should take out of service the 47 poor-condition hose wagons, all over 20 years old, as listed August 6, 1951, and replaced with pumps. This would call for the purchase of 23 new 750-gpm. pumps over this period, since with pumps in this service, the Department could do without 24 reserve pumps. In addition, the Department should replace the balance (25) of its 700-gpm. pumps with 750-gpm pumps. Total 750-gpm. to be purchased over this period: 48

*Strength as a result of the above:*

- 126 1,000-gpm.
- 181 750-gpm.
- 3 500-gpm.
- 310 Total (39 hose wagons still in service.)

PLAN B

(Based on A. C. Hutson Plan of Companies. *Ultimate requirements:* 99 1,000 gpm.; 225 750 gpm. Total Pumpers: 324)

**Recommendation No. 1:** Same as Plan A.

**Recommendation No. 2:** Existing hose wagons should be disposed of, with the extra pumps called for to serve as tenders. This should be followed in transition steps over the next five years, as indicated below.

**Recommendation No. 3:** For PURCHASE PROGRAM, YEARS ONE AND TWO, same as Plan A.

*Strength as a result of the above:*

Same as Plan A. (Keeping existing hose wagons in service as needed, in view of spreading out purchase of pumps over years three, four and five.)

**Recommendation No. 4:** For PURCHASE PROGRAM SPREAD OVER YEARS THREE, FOUR, AND FIVE, the Fire Department should replace the balance of its 700-gpm. pumps (25) with 750-gpm. The 86 hose wagons can be taken out of service and replaced with 37 750-gpm. to bring the total to the strength called for. Total 750-gpm. for purchase over this period: 62

*Strength as a result of the above:*

- 126 1,000-gpm.
- 195 750-gpm.
- 3 500-gpm.
- 324 Total



Table I — PUMPER REQUIREMENTS COMPARED (Continued)

PLAN A

**Recommendation No. 5:** For PURCHASE PROGRAM SPREAD OVER YEARS SIX THROUGH TEN, the Fire Department should replace its remaining 39 hose wagons with 750-gpm. pumpers. *In addition*, the Department should purchase 47 750-gpm. pumpers to provide for hose-tender coverage of 60 percent of engine companies. *In addition*, it should gradually replace its older 1,000-gpm. pumpers with 750-gpm. until the total 1,000-gpm. is down to the planned number—namely, 75. Since 126 1,000-gpm. would be left after the 7 emergency replacements in Recommendation No. 3, this would mean a replacement of 51 old 1,000-gpm. with 51 750-gpm. *But, in addition*, since 116 out of 126 1,000-gpm. would be over 20 years old by then, a purchase of 65 1,000-gpm. would be called for (i.e., the Department would replace 51 of the old ones with 750-gpm.; and 65 with 1,000-gpm.). The Department should also replace its 3 500-gpm. with 750-gpm. in this period. *Total purchases:* 65 1,000-gpm. and 140 750-gpm.

*Strength as a result of the above:*

75 1,000-gpm.  
321 750-gpm.

**Recommendation No. 6:** AFTER THE ABOVE TEN-YEAR SPAN, the Department should plan to get itself on a 20-year replacement program—namely, a replacement of approximately ¼ of its equipment every 5 years. *This should be followed regardless of the actual serviceability of apparatus to keep the equipment from a condition of excessive obsolescence.*

PLAN B

**Recommendation No. 5:** For PURCHASE PROGRAM SPREAD OVER YEARS SIX THROUGH TEN, the Fire Department should gradually replace its older 1,000-gpm. pumpers with 750-gpm. until the total 1,000-gpm. is down to the planned number—namely, 99. Since 126 1,000-gpm. pumpers would be left after the 7 emergency replacements in Recommendation No. 3, this would mean a purchase of 27 750-gpm. In addition since 116 of the 126 1,000-gpm. pumpers would be over 20 years old by then, a purchase of 89 1,000-gpm. would be called for (i.e., the Department would replace 27 of the old ones with 750-gpm. and 89 with 1,000-gpm.). The Department should also replace its 3 500-gpm. with 3 750-gpm. in this period. *Total purchases:* 89 1,000-gpm. and 30 750-gpm.

*Strength as a result of the above:*

99 1,000-gpm.  
225 750-gpm.

**Recommendation No. 6:** Same as Plan A.

its present strength of 86 tenders to 133 to provide a tender for 60 percent of the engine companies), plus 212 750-gpm., the Department's ultimate objective for fire-fighting, including 24 for reserves. If the Department is allowed to purchase pumpers as tenders and to eliminate the need for 24 reserves, the total becomes 321.

*The above compares with the Hutson recommendation of a total of 99 1,000-gpm. and 225 750-gpm., including reserves and spares.*

It will be noted that, in both the Fire Department and the Hutson ultimate objectives, the number of 1,000-gpm.

required is less than what would remain of present strength if the 7 poor-condition pumpers were taken out of service immediately. This affects immediate recommendations, since fewer new 750-gpm. would be recommended, until the gradual taking out of service of the remaining 1,000-gpm. brings the ratio to the desired figure.

The use of pumpers as hose tenders is an integral part of the Hutson plan. However, Mr. Hutson has stated that he would not call for retiring the present good-condition hose tenders immediately. Thus, both his and the alternate recommendations for the Fire De-



partment plan could have a *transition stage*, in which only the present poor-condition hose wagons would be taken

out of service and replaced with pumpers, leaving some hose wagons in service. Comparisons are given in Table I.

Table II — HOOK AND LADDER TRUCK REQUIREMENTS COMPARED

PLAN A

PLAN B

(Based on Fire Department Plan of Companies. *Ultimate requirements*: 162 units.)

(Based on A. C. Hutson Plan of Companies: *Ultimate requirements*: 112 units.)

**Recommendation No. 7:** The Fire Department should standardize ultimately on complete unit hook and ladder trucks, i.e., matching tractors with the same make of trailers, of approximately the same age.

**Recommendation No. 7:** Same as Plan A.

**Recommendation No. 8:** For PURCHASE PROGRAM, YEARS ONE AND TWO, the Fire Department should take out of service the 26 complete units all over 20 years old, as listed August 6, 1951. These should be replaced with 26 new complete units. In addition, the Fire Department should take out of service the 21 tractor units, all over 20 years old, as listed August 6, 1951, as well as 2 over 15 years old; and take out of service 23 corresponding trailer units, out of the 65 listed August 6, 1951, as over 20 years old. For these 23 combinations, it should purchase 23 new complete units.  
*Total complete units purchased: 49.*

**Recommendation No. 8:** For PURCHASE PROGRAM, YEARS ONE AND TWO, the Fire Department should take out of service the 26 complete units all over 20 years old, as listed August 6, 1951. These should be replaced with 26 new complete units.

*Strength as a result of the above:*

*Strength as a result of the above:*

104 good complete units and 50 combinations; total 154.

81 good complete units, and 73 combinations, of which the best could be used for the quota of 112 desired.

**Recommendation No. 9:** For PURCHASE PROGRAM SPREAD OVER YEARS THREE, FOUR, AND FIVE, the Fire Department should take out of service the remaining 42 trailer units, all over 20 years old, as listed August 6, 1951, and take out of service 42 corresponding tractor units, even though this means releasing tractor units less than 10 years old for other service, as may be determined. These should be replaced with 50 complete units.

**Recommendation No. 9:** For PURCHASE PROGRAM SPREAD OVER YEARS THREE, FOUR, AND FIVE, the Fire Department should purchase 31 complete units, thus bringing its strength up to quota, disposing of all its obsolete tractor and trailer units.

*Strength as a result of the above:*

*Strength as a result of the above:*

154 good complete units, and 8 combinations; total 162.

112 good complete units.

**Recommendation No. 10:** For PURCHASE PROGRAM SPREAD OVER YEARS SIX THROUGH TEN, the Fire Department should take out of service the remaining 8 trailer units, and 17 of its complete units, listed August 6, 1951, as 15 to 20 years old. These should be replaced with 25 complete units.

**Recommendation No. 10:** For PURCHASE PROGRAM SPREAD OVER YEARS SIX THROUGH TEN, the Fire Department should take out of service 17 of its complete units, listed August 6, 1951, as 15 to 20 years old. These should be replaced with 17 complete units.

*Strength as a result of the above:*

*Strength as a result of the above:*

162 good complete units.

112 good complete units.



Table II — HOOK AND LADDER TRUCK REQUIREMENTS COMPARED (Continued)

PLAN A	PLAN B
<p>Recommendation No. 11: AFTER THE ABOVE TEN-YEAR SPAN, the Fire Department should begin replacing its remaining 35 complete units which were listed August 6, 1951, as 10 to 15 years old, and the Department should plan to get on a 20-year replacement program.</p> <p>Recommendation No. 12: The Fire Department should seriously reconsider its policy on hook and ladder trucks required for reserves and spares, based on its experience record, to see whether it can use a ratio of 1 to 8 for this purpose.</p>	<p>Recommendation No. 11: AFTER THE ABOVE TEN-YEAR SPAN the Fire Department should begin replacing its remaining 35 complete units, which, as of August 6, 1951, were listed as 10 to 15 years old, and the Department should plan to get on a 20-year replacement program.</p> <p>Recommendation No. 12: The Fire Department should use a ratio of 1 to 8 for reserves and spares.</p>

Table III — SPECIAL APPARATUS REQUIREMENTS COMPARED

Plan A (Fire Department)	Plan B (Hutson)
<p>Recommendation No. 13: For PURCHASE PROGRAM, YEARS ONE AND TWO, the Fire Department should replace 15 chiefs' cars, listed August 6, 1951, as over 10 years old, and in addition purchase of 6 new; total 21. The Department should replace the ambulance listed August 6, 1951, as overage.</p> <p>Recommendation No. 14: For PURCHASE PROGRAM SPREAD OVER YEARS THREE, FOUR, AND FIVE, the Fire Department should replace 26 chiefs' cars listed August 6, 1951, as 5 to 10 years old. It should also acquire an additional hydrant service unit.</p>	<p>Recommendation No. 13: Same as Plan A.</p> <p>Recommendation No. 14: For PURCHASE PROGRAM SPREAD OVER YEARS THREE, FOUR, AND FIVE, the Fire Department should purchase 4 additional foam supply units and one additional hydrant service unit, and replace 26 chiefs' cars listed August 6, 1951, as 5 to 10 years old.</p>

Hook and Ladder Trucks (See Table II)

**Present Situation**—As of August 6, 1951, the Fire Department total strength was 154 units, including 3 city service trucks. Of these, 81 were complete units, and 73 were combinations of tractors and trailers. In general, the Department's hook and ladder apparatus is in extremely poor condition. Very little of it is of recent construction and the Department considers itself eight units short. The combinations are made up of trucks and trailers of various vintages and the Department considers these "mongrels" unsatisfactory. It has classed as emergency-re-

placement items 26 of its complete units, 21 tractors, and 65 trailers.

**Ultimate Objectives**—The Fire Department's desired quota as stated to the Steering Committee is 162 single units. This is based on 130 companies, 4 reserves, 1 for the Probationary Firemen's School, and 27 spares. The latter figure is based on a ratio of 1 spare to every 5 regular trucks. Mr. Hutson cites standard ratios of truck companies to engine companies in other large cities as a justification for a drastic reduction in the number of companies. He also uses a much lower ratio of 1 to 8 to arrive at a combined reserve and spare figure. This brings his total required



down to only 111, although it must be remembered that a basic part of his whole plan is to have 66 pumpers in residential areas carry a 35- or 40-foot extension ladder and 3 other ladders and maintain an officer and 7 men on duty. Adding one for the Probationary Firemen's School brings his quota to 112.

While the Steering Committee indicates in Plan A, above, the requirements as stated by the Fire Department, it would appear justified in calling for management of repair programs, *after rehabilitation of existing equipment*, which would reduce considerably the number set aside for spares. Granting the Department its needs for 4 reserves, it would appear entirely reasonable to suggest that the Department give serious consideration to using 1 to 8 as the ratio for spares. This would call eventually for 17 instead of 27, although the cut is not made a part of the specific recommendations given in Table II.

### Special Apparatus (See Table III)

**Present Situation**—The Fire Department has 7 quad trucks under order, for delivery late in 1951. The Department states that these have been purchased on an experimental basis. They apparently will add to reserve strength, since they are not counted by the Department in equipping existing companies.

Mr. Hutson does not change the Department's desired quotas on any of the other equipment, except that he calls for four additional foam power units.

The Fire Department calls for 1 additional hydrant service unit and 6 additional chiefs' cars. As of August 6, 1951, there were 146 of the latter, of which 105 were less than 5 years old.

### Costs

While precise costs cannot be determined on items which will be subject to bid in future years and which should have some now unpredictable salvage value, nevertheless, some indication of the costs of the recommendations advanced should be made. The Steering Committee decided to employ replacement costs, based on recent purchases and bids. The Mayor's Committee has before it information and recommendations,\* with respect to specifications developed by the Panel and by one of its advisory engineers, which could have an important effect on prices paid. The figures used here are on the high side to give an outside estimate on requirements. There has been some special discussion with respect to 750-gpm. pumpers, it being averred by some that the horsepower specified brings the total prices too high.

For reasons stated, the following values were used for basic apparatus:

750-gpm. pumpers .....	\$15,000
1,000-gpm. pumpers .....	19,000
Hook and ladder trucks (complete) .....	35,000
Chiefs' cars .....	2,500
Hydrant service unit .....	7,000
Foam supply unit .....	6,000
Ambulance .....	5,500

A rough estimate of costs involved in the foregoing recommendations is shown in Tables IV and V. These do not take into account salvage nor the additional cost of hose.

### Hose (See Table IV)

The following recommendations apply to hose in over-all terms, without attempting to specify sizes or numbers or lengths per company, which it is felt should be left for Fire Department determination.

\*ED. NOTE: Document No. 100, previously cited, and No. 105.



Table IV — TEN-YEAR ESTIMATE  
COSTS OF EQUIPMENT PURCHASES FOR FIRE DEPARTMENT MODERNIZATION

Recommendations	PLAN A (Fire Dept)	PLAN B (A. C. Hutson)
No. 1	—	—
No. 2	—	—
No. 3	Years One and Two: 53 750-gpm. @ \$15,000.....\$ 795,000	Years One and Two: 53 750-gpm. @ \$15,000.....\$ 795,000
No. 4	Years Three, Four, and Five: 48 750-gpm. @ \$15,000.....\$ 720,000	Years Three, Four, and Five: 62 750-gpm. @ \$15,000.....\$ 930,000
No. 5	Years Six through Ten: 65 1,000-gpm. @ \$19,000.....\$1,235,000 140 750-gpm. @ \$15,000.....\$2,100,000	Years Six through Ten: 89 1,000-gpm. @ \$19,000.....\$1,691,000 30 750-gpm. @ \$15,000.....\$ 450,000
No. 6	—	—
No. 7	—	—
No. 8	Years One and Two: 49 H & L Units @ \$35,000.....\$1,715,000	Years One and Two: 26 H & L Units @ \$35,000.....\$ 910,000
No. 9	Years Three, Four, and Five: 50 H & L Units @ \$35,000.....\$1,750,000	Years Three, Four, and Five: 31 H & L Units @ \$35,000.....\$1,085,000
No. 10	Years Six through Ten: 25 H & L Units @ \$35,000.....\$ 875,000	Years Six through Ten: 17 H & L Units @ \$35,000.....\$ 595,000
No. 11	—	—
No. 12	—	—
No. 13	Years One and Two: 21 Chiefs' Cars @ \$2,500.....\$ 52,500 1 Ambulance .....\$ 5,500	Years One and Two: 21 Chiefs' Cars @ \$2,500.....\$ 52,500 1 Ambulance .....\$ 5,500
No. 14	Years Three, Four, and Five: 26 Chiefs' Cars @ \$2,500.....\$ 65,000 1 Hydrant Service Unit .....\$ 7,000	Years Three, Four, and Five: 26 Chiefs' Cars @ \$2,500.....\$ 65,000 1 Hydrant Service Unit .....\$ 7,000 4 Foam Supply Units @ \$6,000.....\$ 24,000

It is pointed out that the recommendation to replace hose over eight years old, while requiring a substantial expenditure in the near future, should not be considered extravagant in view of the stated recommendation of the National Board of Fire Underwriters ("Hose—Its Purchase and Care—Bulletin 63") "that, for city-work, purchases should be made on the basis of retiring hose seven years after purchase, as the bursting of hose at a fire may be a very serious calamity."

Table V — COSTS SHOWN IN PERIODS DURING WHICH THEY WILL BE BORNE

PLAN A (Fire Dept.)	PLAN B (A. C. Hutson)
Years One and Two: \$2,568,000 .....	\$1,763,000
Years Three, Four, and Five: \$2,542,000 .....	\$2,111,000
Years Six through Ten: \$4,210,000 .....	\$2,736,000
TOTAL: \$9,320,000 .....	\$6,610,000



**Present Situation**—About one-third of the amount of hose on hand was issued more than eight years ago. Currently, the Department's hose is about 5 percent under the quota which the Fire Department states it would like to attain.

## Hose Costs

Based on computations furnished by the Department of Purchase, using current prices, it is estimated that the above program for years one and two would cost approximately \$576,000 to replace hose now over eight years old. However, analysis of issue-year of existing hose shows that during the next two years an exceptionally large quantity of 2½-inch hose will reach the recommended age limit, calling for an additional expenditure of approximately \$311,000. Thus, the relatively immediate purchase program, calling for the type of hose currently in use, would total approximately \$887,000.

## Table VI — HOSE REQUIREMENTS

**Recommendation No. 15:** FOR PURCHASE PROGRAM, YEARS ONE AND TWO, the Fire Department should replace all hose over eight years old and gradually purchase additional quantities, as called for by the apparatus alignment adopted as a result of the Mayor's Committee recommendation on apparatus.

**Recommendation No. 16:** The Fire Department should put itself on a program of hose replacement every eight years.

## TECHNOLOGICAL DEVELOPMENTS\*

The following material presents the highlights of the comments by manufacturers' representatives on the Panel, on improvements in land fire-fighting apparatus made during the past decade. The endeavor here is to provide as comprehensive a checklist as possible, which the Fire Department can consider in connection with apparatus by any manufacturer. Where appropriate, the gist of comments on certain competitive points made by manufacturers when they saw the first draft (where listed improvements were identified with manufacturers) is included.

### A. General

(1) Steering gears and front axles have been improved with the result that modern apparatus may be handled much more easily and safely than the old.

(2) Brake manufacturers have improved

their product resulting in greater safety at higher speeds.

(3) Fire pumps have been improved to make them more efficient, lighter in weight, and their operation simplified. The relating parts such as discharge valves, governors, etc., have come in for their share of improvements.

(4) Transmissions, electrical equipment, axles, and other automotive units have been improved by their respective manufacturers and they contribute to the general improvement of the fire apparatus in which they are installed.

(5) Engines of all makes are more powerful, more reliable, and longer lived than formerly.

(6) Aerial trucks have undergone the most radical development of all types of fire apparatus, with stronger metal ladders, one-man operation with the engine furnishing the "cranking" power, shorter over-all lengths, etc.

It would appear that these improvements are enough to place apparatus that is more than 12 or 15 years old in the obsolete class.

\*Digest from Document No. 100, prepared by Headquarters Staff, Mayor's Committee on Management Survey, October 22, 1951.



## B. Engine, Chassis, Transmission, etc.

(1) Higher powered engines have been improved with removable wet sleeves, overhead valves, and automatic spark control on distributor and magneto.

(2) The use of governors now prevents speeding of an engine beyond its peak-power speed.

(3) As to 6-cylinder vs. 12-cylinder engines, manufacturers who have adopted the 12 cite this as a definite technological improvement, claiming for it greater flexibility, smoother power output, design advantages in the smaller pistons and lighter reciprocating parts and a resultant reduction in the magnitude of explosion and inertia forces, favorable to long and reliable operation. Manufacturers who have stuck with the 6-cylinder cite the unchallenged position of this type for heavy-duty truck service over the years, and claim easier maintenance. More detailed comments are found in the section of this document dealing with specifications.

(4) Crankshaft bearings and connecting rod bearings have been changed from cadmium silver lining to copper lead lining for greater load capacity and longer life.

(5) Overdrive transmission has been improved with a positive lock-in pumping gear.

(6) An auxiliary cooler with an emergency valve can now divert water from the pump into the cooling system.

(7) Shorter turning radius and better maneuverability are obtained by shortening the wheelbase and the general design, giving a more balanced loading with a low center of gravity. Turning radius has been reduced to 25 ft. on some models of pumps and 27 ft. on others, as compared to 32 ft. on previous models.

(8) Power steer is now available.

(9) Chassis frames have been improved by use of electric welding rather than riveting.

(10) The use of Hydrovac brakes for maximum braking provides deceleration so that at 20 mph. a fully loaded vehicle can be stopped in 18 ft., or slightly less. (In this connection, one manufacturer, while not designating it as a "recent improvement," calls special attention to the safety

feature of his four-wheel drive and cites exhaustive tests by the National Safety Council and the University of Wisconsin, on perfectly smooth lake ice.)

(11) Low cut-in alternators can now be used with two-way radios.

(12) Generator output capacity has been increased to 40 amperes for radio receiving sets, and to 80 or 100 amperes where a transmitter is used.

## C. Improvements in Pump and Associated Equipment

(1) In series-parallel centrifugal pump, ratio of pump output to pump weight has been considerably increased.

(2) Electric primer pump as optioned, instead of mechanically driven primer, is now available. (NOTE: Another manufacturer cautioned against relying on an electrically operated primer without an auxiliary method of priming, in the event of a short or other failure of battery current.)

(3) Pump design is improved for maximum accessibility, with packings carried in separate housing, removable without tearing whole pump apart. Removable and replaceable sealing rings both in the housing and on the eye of the impeller are applicable, so that no machine work would be required if the pump is cut out with silt or dirt.

(4) Pump controls are simplified so as to engage the pump before the driver leaves his seat. Ball bearing construction permits pump to be operated safely for indefinite period in dry condition. This has simplified operation, since pump operator has only to open throttle and discharge gates when operating off a hydrant. When operating from draft, primer is first opened until pressure is obtained, then throttle and discharge gates are opened and primer is closed.

(5) There is an improvement in the throttle control on the operator's panel with vernier adjustment.

(6) Discharge-gate controls on operator's panel make it unnecessary to go around truck to shut off gates on opposite side. Improved ball type discharge gates now operate satisfactorily under high pressure fog on standard two-stage pumps.



(7) High-pressure piston type auxiliary pump separate from standard pump for fog work. Addition of third stage for high pressure fog on standard two-stage pumps.

(8) All drain valves on pump are brought into manifold and controlled by a single push-up lever.

(9) Hard chrome plating of impeller hubs which turn inside pump sealing rings has considerably increased life and dependability of the pump without a major overhaul.

(10) Hardenable stainless steel for pump shafts not only increases life of packings, but makes shaft last the life of the equipment. (This manufacturer states he has also eliminated the separate stainless steel sleeve from the shaft, which sometimes cracked and would cut out packings very rapidly.)

#### **D. Improvements in Body and Equipment**

(1) Re cab design: one manufacturer, who stated that his apparatus redesigns were based on a result of a survey of 1,500 fire departments in the United States, emphasized the desirability of his cab-ahead-

of-engine design, placing the driver at the front to provide maximum visibility. He also stated that this design, because it places the engine back of the driver's seat, makes the engine more accessible for checking on carburetors or ignition adjustments, etc. However, another manufacturer considers these advantages offset by (a) danger of serious or fatal injury in crashes and (b) the fact that the cab-ahead-of-engine design involves a different driving technique from the conventional vehicle; and that, since the driver in most cases drives his personal car much more than he does the fire truck, his reactions may not always be correct, especially in emergency situations. Modern cab design makes it possible to take the entire crew off the running boards and rear step and place them in a protected position in case of a crash.

(2) A manufacturer who has pioneered in aerial ladders and hydraulic ladder-actuating mechanisms has developed steel aerial ladders in three or more sections, making it possible for one man to maneuver the ladder under all circumstances, thus releasing manpower for other duties. This design, he states, has not proven very practicable with wooden ladders.

### **NEW YORK CITY FIRE DEPARTMENT SPECIFICATIONS\***

The panel has had under review copies of the New York City Fire Apparatus Specifications, as well as NFPA booklet No. 19, "Specifications for Motor Fire Apparatus—1951." (The National Bureau of Fire Underwriters has signified agreement with the NFPA specifications; where manufacturers refer to National Board specifications, it may be assumed that they will be equally satisfied if NFPA specifications are followed.) There was also made available the Fire Department's "Specifications — Fire Engines — Pumpers with Booster Tanks," dated July 18, 1951, drawn up in connection with the contemplated purchase of 12 pumpers.

There has been a great deal of criticism of New York City's specifications, although manufacturers do not agree among themselves on all specific items criticised. However, all significant comments and criticisms are given below, with the recommendation that the Fire Department reconsider its whole specification procedure, especially toward setting up actual performance as the basic criterion and using manufacturers' standard where possible. Specifications regulating in detail the type of material in engines and the heat treatment of parts, for example, would according to some manufacturers, result in disqualification of many excellent engines without a detailed study by all en-

\*ED. NOTE: Digest from Document No. 100.



gine manufacturers. Statements made by some engineers and manufacturers would also indicate that the horsepower requirements for the engine on trucks carrying 750-gpm. pumpers should be reconsidered, since excessive power requirements do not permit a great saving in price in the use of a 750-gpm. as against a 1,000-gpm.

## General Comments

(1) "The limitation that bidders must have been engaged in the building or assembly of fire apparatus for a period of not less than 15 years has in the past limited competition to only a few companies and even now restricts the bidding of some of the leading builders of commercial trucks."

(2) "The inclusion of \$200 per piece of apparatus to be withheld for two years does not of itself assure compliance with the 5 year guarantee; it is presumed that it is to assure compliance with the provision for monthly inspections for one year by the supplier."

(3) "The provision for the bidder to pay for traveling and other expenses of a City inspector adds complications to the bidding and to the determination of the unit price. Fire apparatus is built, assembled, and shipped throughout the world without such inspections by the purchaser, and there is no reason why New York City should include such a provision."

(4) "There appears quite a definite desire to create and design a special fire apparatus as each and every detail entering into the construction is definitely spelled out. Specifications of this kind leave the manufacturer no alternative except to design and build a special apparatus solely for the New York City Fire Department, resulting in a great deal of extra expense to the City. Specifications of this nature often hamstring the apparatus manufacturer in using known improvements. The servicing and maintenance of fire apparatus built to special requirements is also burdensome from the standpoint of cost and the availability of service parts."

(5) "Specifications as now drawn are not sufficiently open to automatically per-

mit the City to receive apparatus including many new developments. In order to open up the specifications so that the City of New York can receive the benefit of formal bids from other companies, we suggest the following procedure:

(a) "Specifications are to be in accordance with National Fire Protection Association specifications No. 19, with the following exceptions and additions:

(b) "Listed here would be the items called for in the NFPA specifications which you would not require."

(c) "Items listed here would be the additional items of equipment and such features as you would require on New York City apparatus. For example, you might list the tire sizes, the specification for an all metal cab, together with mirrors, lights, and other equipment you would require."

(d) "Your fire pump performance specification would be given, listing the capacities and pressures that you require."

(e) "The road performance on grades, together with speed and brake ability, would be given."

(f) "Outline of the acceptance test would be given."

(g) "Qualification of bidders. This has been an extremely important part of the specifications. Herein lies your ability to more or less control the bidders who would be acceptable to the City of New York. In the qualification for bids, the most important feature, other than the manufacturer's responsibility and the length of time he has built apparatus, would be his ability to service apparatus for the entire life period, which should not be less than 20 years. If the bidder cannot guarantee service on engines, pumps, aerial ladders, ladder-operating mechanism etc., for 20 years, he would be disqualified. It would seem that as a matter of protection to the Fire Department this qualification would be of extreme importance."

(6) "A well-designed and sensible questionnaire could be developed by competent engineers which would provide a basis for judging whether or not the apparatus proposed would meet the requirements. This



one document together with a general layout drawing of the apparatus as proposed should eliminate the multiplicity of drawings, certificates, correspondence, etc., necessary to comply with the specification requirements."

### Comments on Details of the Department's Standard Specifications

As stated previously, the Fire Department developed modified specifications in connection with its contemplated purchase of 12 750-gpm. pumpers. However, for the sake of completeness in the recommended review of the whole specification problem, significant manufacturers' comments on the Standard Specifications are given below, even though some of the objections voiced apparently have been met. This was considered advisable, since the new specifications eliminate some items in their entirety, which, even though their content was criticized, may warrant reinstatement in modified forms.

#### (A) *Engine, Chassis, Transmission, etc.*

(1) "Not only is the specification written for a 6-cylinder motor but certain design features as related to suspension bolts are included in the specification. To meet the specification there are only two motors that could be formally submitted in a bid. All other makes of motor would require the approval of the City in that they deviate from the specification. Regardless of advantages they might have in the way of performance, life, power output, and serviceability they could be ruled out as not meeting the specifications. There are certain other features specifically called for, such as the design of the cylinder block, crankcase, etc."

(2) "Under paragraph 6 the motor specifications are such as to eliminate the special fire apparatus engines built by the two leading fire apparatus manufacturers of the country. These manufacturers, by building their own 12-cylinder engines, can and do maintain service parts for these engines for at least 25 or more years, while a commercial engine manufacturer does not worry

about servicing engines much more than ten years after the engine model has been discontinued. The trend in automotive practice is toward engines having more and smaller cylinders, on account of their smoother and more flexible operation and lighter reciprocating parts with resultant reduction of stresses. Restriction of engines to the 6-cylinder type would appear to be unjustified."

(3) "The specifications covering details of engine design are restrictive, evidently being based on some particular commercial engine and probably eliminating engines of equal or superior quality. They go to some length in describing the material from which the crankshaft is to be made and which, without specifications regarding the size of the shaft, bearing design and size, etc., mean nothing. Nothing is said about counter balancing of the crankshaft although this is much more important than most of the other details specified regarding the engine."

(4) "Paragraph 9 requires both a magneto with impulse coupling and a battery-coil distributor system. This is usually impracticable on Vee-type engines. Moreover, two battery-coil distributors provide equal reliability and, being identical, permit a close automatic spark advance synchronization which is not possible with the magneto-distributor combination."

(5) "We believe four-point suspension of engine on rubber mountings gives excellent flexibility and more stable mounting of heavy duty engines than does three-point trunnion mounting. Compression release is not available in most engines except by removing plugs. We believe idling at 300 rpm. without miss is a little low, and would suggest 350 rpm."

(6) "Furnishing a bending moment diagram on an axle involves excessive engineering, and gross loading should be used as the determining factor."

(7) "In paragraph 15 the specifications calling for a worm or *double reduction* axle is not consistent with that of the engine. With the type of engine specified the use of a double reduction in the axle would be a mistake because it would involve excessive engine speeds. If a small, comparatively high-speed engine were to be used in connection with a vehicle having a



high gross vehicle weight then the double reduction feature would be desirable, especially if used in connection with an over-drive type of transmission."

(8) "Under paragraph 5 the frame is specified to be of heat-treated alloy with minimum physical properties listed. It is our opinion that for emergency apparatus the frame should be designed of sufficient strength to withstand the loads imposed without being heat-treated. Emergency equipment is much more subject to damage from crashes than commercial equipment. A frame may be bent or otherwise damaged and be readily repaired by heating and/or welding, and shop mechanics would probably do just that, thereby destroying the effect of heat treatment if the frame had been heat-treated. Otherwise expense and delay would be encountered while new parts were obtained. When frames are designed of sufficient size to carry the load without heat treatment, such repairs would not seriously affect the strength of the frame or its usefulness in service.

"It should also be remembered that frame parts involve expensive die setup operations and, unless the manufacturer's standard product is heat-treated, it is practically impossible to obtain the small number of special heat-treated parts necessary to fill one order of fire apparatus."

#### *(B) Pump and Associated Equipment*

(1) "The fire pump specifications under paragraph 40 require pump performance at 600 lb. pressure. Presumably this is for the purpose of producing fog but the National Board of Fire Underwriters have conducted tests proving that nozzle pressure of 100 lb. is adequate for production of fog for municipal fire-fighting, especially if properly designed nozzles are used. A two-stage pump will operate reasonably well at 500 lb. pressure and in our opinion this should be the maximum specified."

(2) "With manganese bronze bodies, we believe a practical maximum operating pressure should not exceed 700 lb. per sq. in. On the discharge side, testing the suction side to 300 lb. per sq. in. would be satisfactory, from our standpoint. . . . We believe the discharge side hydrostatic pressure should be the determining factor, rather than wall thickness. . . . From past

experience, we have found that providing chemical and physical test from each heat in casting metal will be expensive, and again suggest that hydrostatic pressure test be the determining factor."

(3) "We do not believe that the centrifugal pumps should be limited to four stages or more, since the two-stage pumps we supply will give good pump performance at excellent operating efficiencies."

(4) "We do not believe stuffing boxes should be water tight. Life is increased considerably with a slight dripping of water, which is discharged on the ground."

#### *(C) Body and Equipment*

(1) "Much can be done in this respect by removing such ornamentation as chrome plated bumpers, handrails, equipment brackets, etc."

(2) "We consider the semi-cab to be the modern development for the end use of the fire fighting vehicle. There are probably more fire trucks with this type cab delivered in one month than with closed cabs in the entire country in a year."

(3) "The specifications for Douglas fire ladders are practically impossible to meet, but with new methods in fabricating, wooden aerial ladders are not only possible but still superior to steel or aluminum. By fabrication we mean intelligent lamination and scarf joining. It is then possible to select very nearly perfect lumber."

(4) "The Department should remain flexible enough to be able to accept either wood or metal ladders, in accordance with procurement difficulties."

(5) "The spring hoist is the more reliable and foolproof, also the quicker and definitely the less costly to maintain. We would suggest that before ruling out the spring hoist a study be made in cities that use both."

(6) "The speed warning device specified imposes on the driver a responsibility which should properly and better be placed upon an engine governor of either the velocity or flyball type. The governor would limit the motor speeds within a safe range to prevent damage to the engine not only in high gear but in the lower gears as well where engine racing is quite prevalent among less experienced drivers."



## Comments on the July 18, 1951, Specifications of the Department

"In all fairness to others and in order to facilitate theoretical calculations, we recommend that the topographical condition be described for each of the street conditions required, since only by previous tests would one be able to determine if a new piece of equipment can negotiate the test course. In other words, we believe that the test requirements should be indicated as gradients, lengths of same turns, etc., which could be readily obtained from an engineer's office of the locations indicated in the specifications."

### (A) *Engine, Chassis, Transmission, etc.*

(1) "We believe that you are specifying an engine with excessive surplus of power for a 750-gpm. pumper. The requirement in this instance could be dropped to 600 minimum cu. in. displacement and still you would have adequate surplus to make the Class A Underwriter's test of 750-gpm. at 150 lb. pressure, 525-gpm. at 200 lb. pressure, and 375-gpm. at 225 lb. pressure. In this connection, the horsepower requirements could be dropped to a minimum of 180 hp. based on a maximum curve."

(2) "The object is to save the City money in the purchase of apparatus. Paragraphs No. 3 and No. 4 under 'MOTOR' prove expensive from the standpoint of special manufacturing procedure to run such a test. It should be understood that such special tests are set up by the manufacturer as a part of the selling price, and we doubt very much whether the City actually gains anything by having the manufacturer run such a test. We agree that it is a good thing to have verification of the power curve, but it is generally understood that all engine manufacturers are producing engines within reasonable limits of their certified power curves; and if New York City were to put an engine on the dynamometer, we feel certain that there is no engine manufacturer who would allow his engine to fail in meeting the specification."

(NOTE: In a prior review of these comments by the Steering Committee, the representative of the Engineering Division, Comptroller's Office, rejected the above statements.)

(3) "The motor is specified to be 6 cylinder, with 700 cu. in. displacement, and to develop not less than 210 bhp. The first two requirements, 6 cylinder, 700 cu. in. displacement, definitely eliminate us. We manufacture our own motors and have for a considerable number of years. We discontinued 6-cylinder motors 15 years ago, as the 12-cylinder motor proved in service its greater reliability, and many fire departments as a result of their experience specify the V-12 in place of the 6-cylinder motor. Two large cities in this classification are Detroit and San Francisco. We are not suggesting that you eliminate the 6-cylinder engine from the specification, *but to open the specification to permit 12-cylinder engines also.*

"We also ask that the 700 cu. in. displacement requirement be deleted, as this is but a premium on inefficiency and is a device adhered to by manufacturers that can offer only the 6-cylinder engine. We can meet the horsepower requirements, and, after all, it is the power developed by the engine that moves the vehicle to the fire and operates the pump or aerial ladder when at the fire. Neither the displacement nor the number of cylinders determines the performance."

(4) "Unfortunately, the Department still specifies six-cylinder engines which eliminates the standard product of the two largest fire apparatus manufacturers in America. We might suggest that Vee-type multiple cylinder engines are gaining very rapidly in popularity and we can see no reason why there should be any objection to them in the New York Fire Department, especially since they have been accepted by hundreds of municipalities all over the United States."

(NOTE: In prior discussion of these comments by the Steering Committee, the Fire Department and Comptroller representatives maintained that the six-cylinder was, in their opinion, superior.)

(5) "Sheet No. 2, under 'FINAL DRIVE,' specifies: 'shall be manufacturer's standard with radius rods.' The majority of truck builders today use the Hotchkiss drive without radius rods. When radius rods are put in a specification of this kind, it must be considered a special final drive arrangement and certainly could not be considered a manufacturer's standard."



(6) "Under the heading of 'STARTING, LIGHTING, IGNITION SYSTEM,' only single ignition is required. We feel that this requirement will result in more failures at fires than have been previously experienced. Where a pumper has been in operation for several years under full load conditions, failure of a single spark plug, coil, or condenser will put the complete unit out of operation. We can, of course, easily meet this specification, and our comment is simply to question the advisability of removing one of the safety factors which has proven essential for dependable and reliable service."

(7) "Re sheet 2, item 2, 'GENERATOR,' we believe that the rpm. here refers to the engine and this should be stated definitely. A 420 engine rpm. for a cut-in of the generator is a so-called low cut-in, but this would not be possible if 420 rpm. concerned the generator, which the statement now implies. All generators are stepped up in speed a considerable amount from that of the engine and if the 420 is meant to refer to the cut-in of the generator, then the engine will be operating below idling speeds which is considered around 400 rpm."

(8) "Under the heading of 'SPRINGS' the specification includes, 'with helper springs on the rear.' The use of helper springs is confined to vehicles which have a wide range of supported weight between the loaded and unloaded condition. On fire apparatus, the weight variation between the loaded and unloaded condition is relatively small. You will always carry the firemen and the hose to the fire, and about the only change in weight ever encountered is that the water tank might be empty coming back from the fire. This variation is small compared to the gross vehicle weight and does not justify the extra expense of helper springs."

(NOTE: In prior discussion of these comments by the Steering Committee, the Fire Department representative rejected this statement and stated that for New York City service, the helper springs are definitely needed.)

#### (B) *Pump and Associated Equipment*

(1) "Under 'FIRE PUMP & PRIMING DEVICE,' in item No. 1, it is stated that

the pump shall be subject to a test of 500 lb. hydrostatic pressure on the discharge side. This is an impossible test with the centrifugal pump as there is no possible way to run a hydrostatic test on the discharge side of the pump. A hydrostatic test to 500 lb. would also be a hydrostatic test on the suction side of the pump and we doubt whether any pump could be tested hydrostatically on the suction side to 500 lb. without damaging the gland arrangement of the pumps. We recommend that this be changed to 500 lb. operating pressure."

(2) "In item No. 2, 'discharge through any gate and from either side or both sides simultaneously at any pressure or volume'—this is an ambiguous statement because you cannot have maximum pressure at maximum volume. If you have three discharge valves open simultaneously, you would have volume at low pressure. By opening only one discharge valve, you could have high pressure at less volume. I would recommend that the latter part of this paragraph be removed—namely, 'at any pressure or volume.'"

(3) "In item No. 12, a rotary type of priming pump is to be provided. We do not furnish a rotary type priming pump. Our standard is the exhaust ejector type primer which is not only simpler in operation, but requires less maintenance and is more reliable."

(NOTE: This statement was rejected by the Fire Department and Comptroller representatives at a prior discussion of these comments by the Steering Committee.)

"It is interesting to note that in the recent flood at Kansas City and Topeka, Kansas, the apparatus with exhaust ejector primers functioned without difficulty throughout the flood time and without failure from malfunctioning of the equipment. Practically every piece of apparatus equipped with a rotary type primer, and with plain bearings in the pump, had primer seizure and eventually main pump seizure and had to be taken out of service, involving costly repairs."

"Normal operation from water mains does not require a primer, and New York City would be required only to operate from draft when working along the waterfront. Even here, you have a lot of debris



and silt that can damage the rotary type primer.

"It would be our suggestion that item No. 12 be deleted entirely from the specification, as paragraph No. 1, page 5, last sentence, should adequately cover this requirement: 'Priming device of latest improved type shall be provided in addition to the regular fire pump.'"

### (C) *Body and Equipment*

(1) "We make the following comments on miscellaneous items:

"*Sheet 2*—Gasoline tank. It is suggested that NFBU two-hour operation at full load be substituted and the gallonage capacity left to the builder's judgment, because in the final analysis it is a certain time period of operation that is essential with the purchaser, rather than the number of gallons contained in the tank.

"*Sheet 3*—Driver's cab. By inference this indicates a three-man seating capacity for the cab and this may be stated outright: Two with fixed seats and one adjustable for driver, although there should be no question about the intent as written.

"*Sheet 3*—Towing hooks or tow-eyes. This is interpreted to mean two eyes are hooked in front and should be so stated because the interpretation of a plural or a singular may be in doubt.

"*Sheet 4*—Accessories, item b. It should definitely state what kind of ax. Previous specifications were originally supplied or interpreted as pick head axes, which later were changed to flat head. The new specifications should, to avoid confusion, definitely state what type of ax.

"*Page 4*—Accessories, item h. Brass suction basket holder has been interpreted as a screw plate for the basket strainer or tubular strainer. If this is what is intended, it should be so stated, rather than as one brass suction basket holder. Basket sometimes perhaps is interpreted as an item for holding soft suction hose.

"*Sheet 5*—Fire pump and priming device, item 7. This calls for pressure gages 3½ in. It is believed that the same gage should be permitted as item 10 on the same sheet for maximum interchangeability of parts used on the truck."

(2) "We note that you are thinking of getting bids on fire apparatus without cab doors but with 'sidings sufficiently high to protect occupants.' If it is necessary, and it will be, for any vendor to build for New York City a special cab which is in any way different from his standard design as is called for here, it will cost you more money and not less as I believe your intention is directed. You will defeat your own purpose."

## CONCLUSIONS\*

Until recently the Fire Department's specifications for fire apparatus had become so detailed that it was questionable if any manufacturer could furnish his standard apparatus, and therefore it had to be custom built. It must be remembered also that such detailed specifications cannot be kept up to date with technological advance except through a great amount of research and trial.

Any specification which limits the bidder to a certain specific feature, such as the number of cylinders, peak horsepower, or piston displacement, is arbitrarily reducing the chance of the City getting satisfactory apparatus at a reasonable price. This is particularly true when the specifications bar two of the leading and oldest manufactures from furnishing their stock models of fire apparatus; a change in the engine to one of those stated to be available will require also a change in the pump gear and the transmission.

\*Based on Document No. 105, Mayor's Committee on Management Survey, prepared by A. C. Hutson, December 8, 1951.



Purchase of fire apparatus should be on the basis of the performance needed for quick response and adequate operation. Certain road tests should be specified, of which one of the most important is the ability to slow to a speed permitting a quick stop, upon reaching a cross street, and to accelerate to a 30- or 35-mph. speed upon crossing. The hill-climbing test in the specification does not necessarily prove quick acceleration for normal level driving. In fact, it is largely due to the hill-climbing test that this 210-hp. engine is required. Therefore a modification of the test should be made, because nearly 100 percent of runs by fire apparatus are on essentially level ground, and because of traffic conditions quick stopping and acceleration are essential.

The most recent specifications rightly leave many of the questions of design and quality of material to the manufacturer. They still retain some specific features which require manufacturers to change their standard apparatus materially or not bid; and they also specify some severe performance tests that are not particularly needed for service. These tend to eliminate makes and types of fire apparatus found eminently suitable throughout the United States and other countries. That these specific requirements are not essential is evident from the fact that the City in the past was protected by apparatus which could not meet these requirements, and that much of this apparatus is still rendering regular service although over 20 years old and some of it 30 years old.

More complete records should be kept of the performance and defects, and cost of repairs, of each individual piece of fire apparatus.

As to hose, in recent years there have

been developed several synthetic rubbers; at the present time crude natural rubber is on the scarce list. Considering these conditions it appears advisable for the City to investigate the possibility of using some of these rubber substitutes.

Specifically, it is recommended:

(1) That the "Specifications for Motor Fire Apparatus," issued by the National Fire Protection Association, be used as the basis for all specifications for fire apparatus purchased by the City of New York.

(2) That performance requirements be carefully considered as to whether they unduly increase the cost, considering the normal use of the apparatus.

(3) That requirements for equipment and accessories be limited to those listed as standard in the above mentioned specifications of the National Fire Protection Association, where it is applicable; and that the Fire Department purchase other equipment, if not on hand as surplus, and install it on the apparatus when it goes into service. Provision for the mounting of this extra equipment should be arranged with the manufacturer of the apparatus.

(4) That a general layout drawing be required, but other requirements for a multiplicity of drawings, etc., be deleted.

(5) That consideration be given to the employing of an engineer, recommended by the Association of Fire Apparatus Manufacturers or some other responsible association, to collate and analyze the service records of the Department's apparatus and to review all recommended changes in the above mentioned National Fire Protection Association specifications.

(6) That a technical review of the specifications for hose be requested of the hose experts of Underwriters Laboratories, with particular attention given to the use of synthetic rubber, the use of water repellents and of rubber outer jackets.



## SECTION 4

**PORTABLE AUXILIARY EQUIPMENT**

By

HAROLD J. BURKE

**General**

There are two barriers which obstruct the Fire Department's quick control of fire. One is smoke and/or toxic fumes; the other is heat.

The obvious solution to the first problem is to equip the Department with adequate breathing apparatus that will safely immunize the wearers from surrounding contaminated atmospheres. The New York Fire Department has been astonishingly lax in not fully utilizing breathing equipment and it has not kept pace with modern trends. The policy has been to rely on the services of the rescue companies which, except for a few self-contained oxygen apparatus on the fire boats, have the only self-contained breathing apparatus in the Fire Department. Thus in New York City, with an area of about 314 square miles, the Department is forced to depend on the services of five rescue companies. At least one of these, the company in the Borough of Richmond, is more or less a make-shift arrangement.

The very existence of rescue companies is an indictment of the equipment and training policy of the Fire Department. If all companies were properly

equipped and if all men were properly trained there would be no need for these special units, and the required equipment would be available at all alarms in any section of the City.

**Breathing Apparatus**

There are several types of breathing apparatus used by the fire service in the United States.

**The Hose Type**—consists of a face-piece to which a wire reinforced hose is attached. The outer end of the hose leads to breathable air. Sometimes air blowers are employed. This type is totally unsuited for general fire service. It limits the radius of operations; the hose may kink; heavy objects may fall across it and shut off the flow of air; and there are other additional objections. This type of equipment was developed primarily for petroleum and gas industry.

**The Filter Type**—utilizes a canister which is connected by a wire reinforced hose to a rubber face-piece so constructed that it will fit the wearer's facial contours closely and prevent the seepage of external atmosphere. This type of breathing apparatus was developed from the box respirators used in World War I as protection against concentration of war gases. The present models contain several layers of chemi-



cals which absorb moistures, filter out smoke particles and toxic fumes, and in addition, through a catalytic action, change the poisonous carbon monoxide to relatively harmless carbon dioxide. The atmosphere surrounding the wearer is drawn into the canister through a hole in the bottom as a result of the wearer's inhalation. It passes upward through the filter chemicals until it enters the face-piece in breathable condition.

This type of breathing apparatus would be ideal for the fire service except that it is incapable of furnishing any oxygen. It merely filters out impurities from the air and consequently cannot be used safely in any atmosphere that contains less than 16 percent of oxygen by volume.

**Oxygen Rebreathing Apparatus**—employs a tight-fitting face-piece, a breathing bag, a cylinder of pure oxygen, and a quantity of carboxide, caustic soda or similar compound for scrubbing the exhaled breath. This type of equipment was designed primarily for mine rescue operations and not for fire service. In addition to the components listed above, it has many delicate high-pressure valves, gauges, and fittings which are difficult to keep tight and in good condition, particularly if such equipment is placed on fire apparatus and subjected to the bounces and jolts of city streets. Moreover, it requires considerable training both in the technique of its use and in the method of servicing and maintaining it.

The term "rebreathing" is used for this type of equipment because the wearer's breath is purified by passing through the chemical, is enriched by the addition of oxygen from a small high-pressure cylinder, and is then recirculated, or "rebreathed."

**Demand Type Apparatus**—consists of the usual face-piece and a cylinder containing either oxygen or highly compressed, chemically pure air. Between the cylinder and the face-piece is a stop valve and a pressure-reducing (demand) valve. This apparatus also incorporates a gauge. For operation, the stop valve is opened and the wearer breathes the air or oxygen as long as any remains in the cylinder. When the cylinder is empty all protection ceases, and the cylinder must be either replaced with a fully charged one or refilled before the equipment can be reused.

There are several objections to the demand type of equipment. While it will insure respirable air even in oxygen-deficient atmospheres, it is heavy, weighing about 33 lb. It is somewhat awkward to wear. It is of relatively short life, being listed as a half-hour piece of equipment by the U. S. Bureau of Mines and, under severe exertion, this period may be drastically reduced.

**Oxygen Self-Generating Type**—It can be truly said that this equipment was designed especially for the requirements of the fire service. It consists of a face-piece, a breathing bag, and a canister which contains potassium tetroxide and a catalyst to accelerate the chemical action. It operates when the moisture in the exhaled breath comes in contact with the chemical. As a consequence oxygen is generated. This oxygen flows to the breathing bag which acts as a reservoir from which the wearer draws it as he breathes. This unit is light, weighing only about 13½ lb., and is listed as of 45 minutes duration by the Bureau of Mines. It contains no high-pressure valves or moving parts. It is the simplest of all the self-contained breathing apparatus to use and it re-



quires a minimum training period. It is extremely simple to maintain. All that is necessary is to be sure that, after use, the expended canister is replaced with a new one, or in an emergency the canister can be replaced in a few seconds even in a contaminated atmosphere.

The U. S. Navy used thousands of the oxygen self-generating-type breathing apparatus during World War II. At the conclusion of hostilities these were made commercially obtainable. The New

York Police Emergency Service Division has many of these units. The Port of New York Authority has some 15 or more. They are used extensively in other fire departments throughout the country, such as Boston, Detroit, Cleveland, St. Louis, and Kansas City.

Because the choice of breathing apparatus will undoubtedly fall between the demand type and the self-generating type, a side by side comparison of each is furnished in Table I.

Table I — COMPARISON OF TWO BASIC TYPES OF BREATHING APPARATUS

	Oxygen Self-Generating	Demand Type
Weight .....	13½ lb.	Approx. 33 lb.
Bureau of Mines approval .....	Yes	Yes
Rated duration .....	45 min.	30 min.
How mounted .....	Front	Back
Does it use cylinders, gauges, and/or high-pressure valves .....	No	Yes
Men required to adjust apparatus for wearer...	Wearer alone	Usually 2 men
Replacing canister or cylinder for continued operation .....	1 man	2 for prompt use
Time required to change canister or cylinder ....	45 seconds	About 3 min.
Can the recharge or refill be made in contaminated atmosphere .....	Yes	No
Can the wearer perform the "Fireman's Carry" .....	Yes	No
Space requirements on fire apparatus (2 masks and 3 spare charges for each .....	2 cases—23 x 17½ x 9⅞ 8050 cubic in. 4.9 cubic feet	2 cases—26 x 20⅞ x 10 Plus 6 cyl. 23 x 7⅞ x 7⅞ in. 17,366 cubic in. 10.3 cubic feet
Storage and service .....	Canister storage only. May be in any handy location.	Requires space for recharge where storage cylinders and spares can be kept and recharged.
Cost Analysis		
(Based on a unit of 200 Masks)		
200 breathing apparatus .....	\$30,000	\$40,000
10 percent spares .....	\$ 3,000	\$ 4,000
3 spare recharges per apparatus .....	\$ 3,960	\$23,700
20 storage cylinders (oxygen or air).....	None	\$ 2,200
Oxygen pump, manifolds, adapters, electrical installations set up for servicing estimated .....	None	\$ 2,000 (but centrally located this could serve twice the number of masks).

Estimated annual cost of operation and maintenance per 100 Oxygen Self-Generating Masks carried on engine and

ladder companies: assuming 5 canisters per unit per year, these will average an hour and a half use for fire-fighting and



Table II — REFILLS

	Oxygen Self-Generating	Demand Type
500 canisters .....	\$3,300	None
About 375 refills for large storage cylinders .....	None	\$1,125
Maintenance parts and servicing .....	\$ 300 (about)	\$2,500 (about)

training, or 750 hours. This would be equivalent to about 1,500 refills of demand apparatus cylinders.

Where large numbers of demand regulators are to be kept in good working order they must be sent either to the factory or to a shop equipped with proper instruments for a complete check-up. This shop must be maintained by skilled instrument men who are capable of calibrating and adjusting the equipment or by men who have this specialized training. During World War II the Military Forces found it was necessary to service these regulators about once ever six months. In the event of using the equipment in radioactive atmospheres, the oxygen self-generating type can be completely decontaminated by scrubbing without too much difficulty. Since the inside diaphragm of the demand valve is exposed to outside air, this valve must be opened and the parts scrubbed after disassembling to decontaminate. Usually the diaphragm must be replaced each time.

**Recommendation**—The ideal breathing apparatus would be one that is:

- (1) Light in weight.
- (2) Not unduly cumbersome.
- (3) Free of moveable parts.
- (4) Safe to wear.
- (5) Foolproof.
- (6) Equipped with a speaking diaphragm for communication.
- (7) So simple that firemen can completely master it in short training periods.

It is therefore recommended that each engine and ladder company in the Fire

Department be issued two oxygen self-generating types of breathing apparatus with a supply of three canisters each. In addition, a replacement inventory of 200 canisters should be maintained at the Department shops. This will involve an expenditure of approximately \$114,000. It is recognized that this is a considerable outlay, but it may be done on a three-year plan. Once the initial capital outlay is made, there is relatively little recurring expense, this being limited to replacement canisters. All partially expended canisters should be retained in the companies or sent to the Department school for training purposes. If any program for the utilization of breathing equipment is to succeed, suitable provision must be made for “mask discipline” and training.

**Fog Nozzles**

The radiant heat of a fire has often proved to be so severe that a fire company cannot approach close enough to the seat of a blaze to deliver water effectively. Water spray or “fog” nozzles, as they are popularly called, have proved to be most effective for heat absorption, since each minute particle in the spray possesses its individual surface area, and the total area available for heat absorption is increased thousands of times.

Finely diffused water can completely extinguish fires in most flammable liquids, with the single possible exception of gasoline in bulk. Even in this case water fog definitely controls the rate of burning, and often will control the



situation until fire-fighting material suitable for blanketing the fire can be placed in operation.

The fog nozzle is not a "cure-all" nor is it suitable for all types of fires. It has its disadvantages as well as its advantages. Chief among its disadvantages is the fact that it has a short trajectory.

The ideal nozzle would be one that could give "fog discharge" or a solid stream at the option of the operator. To include both these advantages, the U.S. Navy designed the so-called all-purpose nozzle, which permits a person using it to deliver water in a diffused form or in the form of a solid stream, or to shut off the flow completely. This nozzle is commercially available today.

**Recommendation**—Each fire company should be issued one 2½-in., all-purpose nozzle similar to or equal to that used by the U.S. Navy in World War II. In addition, each engine company should be issued one 1½-in. all-purpose nozzle.

In order to get the best results from these nozzles, suitable training techniques should be instituted. This training should be conducted on actual fires.

## Foam

Foam for fire-fighting is obtainable in two forms: chemical or powder, and mechanical or liquid.

*The chemical or powder type* of foam generation requires a foam generator. This is a mechanical mixing chamber, consisting of a base with inlet and outlet water connections and a venturi approximately midway between them. Because of the high surface tension characteristics of the mixture, the gas generated is enveloped in a tough film forming tiny bubbles of foamlike appearance.

The hose should be at least 100 ft. long to permit full expansion of the mixture, but should not exceed 150 ft. in order to prevent breaking down the foam. Since the generator is usually portable, it can be set up within the proper distance of the fire.

If the generator is set up in a position exposed to the weather, any prevailing wind will tend to blow the powder about. Furthermore, the generator requires constant and uninterrupted feeding with the chemical powder at a rate of about two 50-lb. cans per minute. Failure to maintain the chemical supply at the rate stipulated by the manufacturer will result in poor foam texture or even in the loss of foam.

*Mechanical or liquid foam* is somewhat similar in appearance to chemical foam. However, it is not generated by chemical action, but by the mechanical entrainment of air and stabilizer into a solution with water. Foam stabilizer is fed into a water stream usually at the rate of 6 percent by volume. Air entrainment and foam generation occur at the discharge nozzle.

There are several methods of mixing the liquid foam stabilizer with water. It may be premixed, the stabilizer may be injected into a fire main or hose line through the use of suction proportioners or proportioner pumps, and, finally, it can be added to the water stream by using a pickup tube that is fitted to the special foam nozzle.

Mechanical foam is generally satisfactory for Fire Department use because it can be handled most conveniently through piping and fittings suitable for water. The hose layout used with mechanical foam may be of any desired length. The only factor to consider is the friction loss, which for



practical purposes can be considered the same as that of water.

The flexibility of mechanical foam generation is particularly useful in fighting serious oil fires in refineries, tank farms, and tankers. Once a foam blanket has been established, the vaporization of the liquid is sealed off and the metal boundaries around the fire may then cool normally to a temperature below the re-ignition point. If this is to be accomplished, however, care must be taken to specify a foam stabilizer that has a relatively low expansion.

Under certain conditions, high expansion foam has considerable merit, but the product tends to break down rapidly, and the foam blanket has no permanence and often is too light to prevent the vapor pressure from piercing it. Furthermore, the natural up-draft of a flammable liquid fire tends to draw high expansion foam up with it and to prevent it from reaching the surface of an oil fire to form a blanket.

**Recommendation** — Each ladder company should carry one mechanical foam nozzle and two 5-gal. cans of foam stabilizer. Each fire boat should carry a 1,000-gal. proportioner pump and a bulk supply of 100 gal. of mechanical foam stabilizer. Additional proportioner pumps should be carried on special apparatus now designated for foam service.

## Ladders

Since before the turn of the century, the New York Fire Department has equipped engine companies with scaling ladders. This is probably the least-used piece of equipment in the Department. At best it is used only in the most desperate situations. As it is a single beam ladder, it is very difficult to climb even

if a man is unencumbered and able-bodied.

**Recommendation** — Scaling ladders should be eliminated from the equipment of engine companies and they should remain only on ladder companies. Plans should be developed to design a framework over the hose compartment and cab of engine companies to carry a light portable metal extension ladder of 25- to 30-ft. extended height. The over-all length of the apparatus on which it is to be placed should determine the length of the ladder, and there should be no excessive overhang that would in any way interfere with the maneuverability of the apparatus.

## Ladder Pipes

From time to time the Fire Department is confronted with the situation which makes the use of heavy caliber streams at a high elevation desirable. In the high-value district and one or two other sections water towers capable of producing such streams are in service. These are cumbersome and awkward to handle in traffic and somewhat slow and difficult to operate as well. Suitable ladder pipes are in the market, which if used, would permit an extension ladder to serve in the same capacity as a water tower.

**Recommendation**—The aerial ladders of hook and ladder trucks should be equipped with ladder pipes.

## Deluge Sets

The Fire Department has made wide use of deck pipes on apparatus. This is one of the most effective means of stopping threatening fires, forming water curtains, and protecting exposures. These deck pipes are permanently attached to the apparatus and as a con-



sequence their use is limited to locations to which the apparatus may be driven. If the deck pipes were in the form of deluge sets, which are essentially the same type of equipment, provision could be made to secure them to the apparatus by clamps or other devices which, while providing secure attachment to the apparatus, would permit the deluge sets to be removed completely and to be set up at points remote from the apparatus.

**Recommendation**—The most effective deck pipes now in service in the Fire Department should be retained on the apparatus, but in the future pumpers ordered to furnish the second unit of two-piece companies should be purchased with movable deluge sets in lieu of ordering new deck pipes or transferring old, inefficient deck pipes from present apparatus to new deliveries.

### **Soda and Acid Extinguishers**

Every apparatus in the Fire Department has at least one soda and acid extinguisher. These extinguishers require recharging annually even if not used on a fire and, of course, must be recharged after each fire. Recharging can be accomplished only in quarters, and many men have received burns from the sulphuric acid used in these extinguishers during the recharging process. The desirability of a water-type extinguisher is recognized, but it is believed that a carbon-dioxide, expelled-water extinguisher is a much more effective and less dangerous piece of equipment. If desired, a wetting agency can easily be added to such extinguishers and no acid damage can possibly result.

**Recommendation** — All future purchases of water-type extinguishers should be of the carbon-dioxide, ex-

pelled-water type and each existing soda and acid extinguisher should be converted into carbon-dioxide, water-expelled type through the use of a conversion unit that can be obtained for about \$6.

### **Carbon Dioxide Extinguishers**

The New York Fire Department has a number of 15-lb. carbon-dioxide extinguishers in service. These use a valve operated by a hand wheel and disc cutter. To operate this valve, the hand wheel is rotated, cuts out the sealing disc and permits the carbon dioxide to discharge. By turning the handle in the opposite direction the flow of carbon dioxide is slowed but never completely stopped. As a result, even though 1 lb. of gas would extinguish a fire, the remaining 14 lbs. will eventually seep out. If the flow of gas is to be shut off, even momentarily, to permit the operator to shift to a better vantage point, the extinguisher must be set on the ground, gripped by the operator's knees or in some other manner, and the hand valve operated to shut off the flow. Reaching the new position, the operation must be repeated again.

**Recommendation** — All apparatus including chiefs' cars should carry a 15-lb. carbon-dioxide extinguisher. All future purchases of this equipment should specify the "squeeze-grip valve." Existing disc cutter valves should be replaced by revalving with the "squeeze-grip" type of valve. This would cost about \$5.80 per unit for the material.

### **Cutting Torches**

**Recommendation**—It is recommended that each ladder company be furnished with a portable oxyacetylene cutting torch.



## Inhalators

The necessity for having resuscitating apparatus instantly available has long been recognized. Yet in the Fire Department only the rescue companies and the ambulances now carry this equipment. The inhalator and the newly developed pneolator are fool-proof and nondamaging to victims even if used without a physician's advice. This type of equipment should be instantly available in any section of the City.

If a person is completely unconscious, manual artificial resuscitation is necessary when an inhalator is used, and it is not necessary with the pneolator which is completely automatic. The cost of the inhalator is approximately \$180 and the cost of a pneolator is about \$420. While the pneolator is undoubtedly a better piece of equipment and has a definite place with rescue

companies and ambulances, the inhalator is considered satisfactory for general use on ladder companies.

**Recommendation** — Each ladder company should be equipped with either an inhalator or a pneolator.

## General Comments\*

It is suggested that the Fire Department establish allowance lists of auxiliary equipment to be provided for each company according to its classification. In the interests of maintenance and effective operations, standardization is considered of great importance. Standardization should also include specifying, in general, the place on each type of apparatus in which equipment is to be carried. Since the general arrangement of all apparatus is similar, the location of equipment is fairly simple to work out.

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\*ED. NOTE: The comments here are those of Mr. Burke. Certain additional comments were received by the Mayor's Committee from its engineer, Mr. A. C. Hutson, as follows: "*Fog Nozzles*—I would suggest that companies in residential areas carry two 1½-in. all-purpose nozzles. Double strength foam stabilizer, which uses half as much as that of Chief Burke's experience in the war, is on the market at present and available from at least two suppliers. Other foam material can be had which is effective on alcohol and certain other materials which break down ordinary foam. It might be well for the 750-gal. pumpers, which act as tenders to the 1,000-gal. pumper, to carry foam material and have a proportioner and foam nozzle . . . *Ladders*—Ladders on pumpers should be 35-40 ft., which is possible with three section ladders; when made of aluminum they are not too heavy for two men to handle. For those 66 companies in residential areas in Queens, Brooklyn, Richmond, and the Bronx, there should also

be a 24-ft. extension and two 12- or 16-ft. straight ladders, one of which should have rook hooks . . . *Soda-Acid Extinguishers*—It might be well to specify that these extinguishers be of the anti-freeze type . . . *Suggestions*—All pumpers should be equipped with the following equipment: Standard tool kit with high-pressure grease gun; ten-ton jack; generator and flood lights; life net; revolving cellar pipe; and indian fire pump. Ladder trucks should have a thorough check of all equipment now specified for them . . . I do not believe the manufacturer of fire apparatus should have to furnish much of the minor equipment carried when apparatus is in service. He cannot buy cheaper than the City and would have to charge cost plus interest and handling. Probably most of these minor appliances are available from discarded apparatus or storage. And, in general, I am opposed to extremely rigid standardization on auxiliary equipment in specifications."

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## SECTION 5

# MARINE DIVISION

BY

HAROLD J. BURKE

The port of New York is one of the finest harbors in the world. It has approximately 578 miles of shore front. There are some 720 piers, 62 bridges, and several islands. The islands in the upper bay can be reached only by water. Other islands in the port have bridge access. The port is of strategic importance and has great military value.

Approximately 150 million short tons of commerce were handled by water during the year 1950. Inflammable liquids in the form of fuel oil, gas and oil distillates, crude petroleum, motor fuel and gasoline, and kerosene and lubricating oil totaled approximately 62 million tons. The value of these cargoes runs into billions of dollars and the value of shipping, piers, and water front structures totals additional billions of dollars.

The port of New York is particularly vulnerable to fire because of the nature and type of water front construction. Most of the piers are not fireproof. They are of excessive size, many exceeding 1,000 ft. in length and 200 ft. in width, and it is not unusual to find piers with an unbroken area of approx-

imately 200,000 sq. ft. These piers are the repository of so much freight waiting shipment or transportation that they often resemble warehouses.

Once a pier fire gets headway, it is exceedingly difficult to control because of the large unbroken areas and the tremendous horizontal drafts created. The piers can be approached from only one side by land fire apparatus and, as a result, the maintenance of a strong Marine Division is imperative. In the event a fire of some magnitude starts on a pier, a considerable section of the roof must be removed in order to break the horizontal draft. Fire boats with exceptionally large-size monitors can remove sections of this roofing, which is of relatively light construction, by the velocity and demolition effect of their powerful streams. This is one of the principal reasons for utilizing large-capacity fire boats in the port of New York.

In addition to the pier and bulkhead structures in the port of New York, the vast amount of shipping must be considered. The vessels using the port range in size and character from tugs to luxury liners such as the *Queen Elizabeth*. The cargo carried on these vessels represents practically every type of fire hazard. Petroleum products with

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Digest from "Analysis of Fire Protection of the Port of New York," by Harold J. Burke, December 1, 1951.



VESSELS OF THE MARINE DIVISION, NEW YORK CITY FIRE DEPARTMENT

NAME	BUILT	POWER	FUEL	PUMPS	CAPACITY	PROPULSION	CONDITION
Hewitt Eng. Co. 77	1903	Steam	Coal	3 Reciprocating	7,000-gpm.	Reciprocating steam engine, single screw	Poor
McClellan Eng. Co. 51	1905	Steam	Coal	3 Reciprocating	7,000-gpm.	" " "	Poor
Willet Eng. Co. 78	1907	Steam	Oil	2 Reciprocating	9,000-gpm.	" " "	Fair
Duane Eng. Co. 85	1907	Steam	Oil	2 Centrifugal	9,000-gpm.	" " "	Good
Lawrence Eng. Co. 87	1908	Steam	Coal	2 Reciprocating	7,000-gpm.	" " "	Fair
Gaynor Eng. Co. 223	1913	Steam	Oil	2 Centrifugal	7,000-gpm.	" " "	Good
Mitchel Eng. Co. 232	1921	Steam	Oil	2 Centrifugal	9,000-gpm.	" " "	Good
Harvey Eng. Co. 86	1931	Gas	Gasoline	4 Centrifugal	16,000-gpm.	Electric motors twin-screw	Good
Fire Fighter Eng. Co. 57	1938	Diesel Electric	Oil	4 Centrifugal	20,000-gpm.	" "	Good

The fire-boat tender *Smoke* is a 58 ft., 21 ton, gasoline engine driven, single screw vessel that has no pumping equipment.

their serious fire hazard comprise 40 percent of the total waterborne tonnage. Associated with the petroleum industry are several large refineries and numerous tank farms all at or near tidewater.

One has only to consider the fire record of the port of New York to realize the tremendous hazards that exist. The port has been the scene of many multimillion dollar fires, too numerous to catalog here.

Property and Facilities of the Marine Division

The organization of the Marine Division of the New York Fire Department consists of ten fire boat berths, nine fire boats (the tenth was condemned by the Bureau of Marine Inspection, U. S. Coast Guard, on April 13, 1948), and a marine repair shop and stock room for

parts, paint, etc. Listed in the above table are the vessels of the Marine Division with their principal characteristics.

It will be noted that three vessels are coal-burning, steam-driven, and utilize steam-driven reciprocating water pumps. All of these vessels are old. The *Abram S. Hewitt* is 48 years old, the *George B. McClellan* is 46 years old, and the *Cornelius W. Lawrence* is 43 years old. Piston-type reciprocating water pumps constantly develop trouble in their hydraulic valving, and after a short time are seldom able to deliver their rated capacity. Obsolete parts cannot be obtained from manufacturers and must be tool room items. This is costly and keeps equipment out of service too long. In addition, these three vessels using coal as fuel require the services of stokers. Under serious or



prolonged fire conditions these stokers are subject to considerable physical punishment and often collapse. As a consequence, boiler steam pressure drops to a point where pumping effectiveness and maneuverability of the vessel are seriously impaired. And when it becomes necessary to refuel these three vessels, they must be taken out of service and sent to a coal dock usually somewhere on the New Jersey shore. New York City will be faced with the necessity of replacing these obsolete vessels in the immediate future.

The fire boats *James Duane* and *Thomas Willett* are oil-burning steam vessels equipped with turbine-driven centrifugal pumps. These vessels, despite their age, have shown remarkable serviceability and they are in good condition today.

### Replacement of Obsolete Vessels

The desirable general characteristics of a fire boat for New York City are an approximate 125-ft. length, a 28-ft. beam, a sound, well-reinforced hull, ample free deck space, a 10,000-gpm. pumping capacity at 150 lb. per sq. in., and twin screws and twin rudders for maneuverability at a speed of about 15 knots.

Recently a new fire boat was placed in service in Philadelphia. Because it was relatively inexpensive, the possibility of using vessels of similar design in the port of New York was carefully studied. The Philadelphia boat has a 79-ft. length over-all, a 19-ft. beam, a single screw, and a 6,000-gpm. pumping capacity at 150 lb. per sq. in.

The vessel operates in the Delaware River far from the Atlantic Ocean and, in the writer's judgment, would be unsuitable for the conditions existing in the port of New York. Fire boats of

New York City are often required to go to Ambrose or Scotland Lights to meet incoming vessels on fire. Under such conditions they may encounter comparatively heavy seas for which a boat of the Philadelphia design would be entirely unsuitable. Furthermore, the total pumping capacity of 6,000 gpm. is not considered satisfactory for the use intended by the New York City Fire Department. The largest monitor nozzle on the Philadelphia fire boat has a capacity of 1,500 gpm., whereas the main bow monitor on the New York fire boat should be 5,000 gpm. to permit utilizing the full demolition effect of the fire stream. Other monitors should have 3,000-gpm. capacity.

### Assignment of Fire Boat Berths

At present only nine of the ten fire boat berths have vessels assigned to them. The berth of Engine Company 66 at the foot of Grand Street, Manhattan, is at present without a fire boat. This shortage was caused by the condemnation of the fire boat *William L. Strong* in 1948. This is an important berth since it is directly opposite the U. S. Naval Ship Yard at Brooklyn and within a short radius of the Brooklyn and Manhattan piers. It is felt that the fire boat *Lawrence*, which is berthed at the foot of 135th Street and the Harlem River, should be relocated at the Grand Street berth.

Years ago the berth at the foot of 135th Street and the Harlem River was of great importance because Ward's Island and Randall's Island could be reached only by water. Both of these islands were the sites of correctional, medical, or charitable public institutions of one type or another. In addition, the whole eastern shoreline of Manhattan Island was built up with



dilapidated commercial buildings that were within easy access of the East River, hence, a fire boat was of great value in augmenting the land fire apparatus for fighting fires in these structures. Since the late 1930's the situation has changed radically. The Triboro Bridge now gives access for land apparatus directly to Ward's and Randall's Island from either Manhattan, the Bronx, or Queens. All the dilapidated buildings on the eastern fringe of Manhattan Island have been removed to make way for the East Side Drive. In fact, aside from one or two coal-handling facilities and wharves, there is no pier between Grand Street and the northern tip of Manhattan Island.

It is felt that the berth at 135th Street and the Harlem River could be abandoned without detrimental effect and that the size of the Marine Division could be reduced one boat in size. This is the vessel that is suggested for transfer to the Grand Street berth.

**One Standby Vessel Needed**—It must be emphasized and clearly understood that the recommendation to reduce the number of fire boats in active service to nine is contingent upon maintaining a reserve vessel to replace any first line fire boat that may be temporarily out of service. Vessels of the Marine Division, unfortunately, are out of service for quite a period each year during government inspection. Hull repairs are often ordered by these inspectors and this further ties up the vessel. In addition, each steam vessel must be placed out of service for one week during boiler inspection. An approximate total of 39 weeks for all boats is lost in necessary out-of-service periods.

The last vessel retired from active service upon the delivery of a new fire boat should be retained in reduced com-

mission and be used to replace any vessel out of service during its absence. This will provide nine first line fire boats in active service and one reserve or replacement vessel.

### Replacing Obsolete Boats

On October 22, 1948, \$850,000 was appropriated in the capital budget for a new fire boat. It soon became clear that this amount was insufficient. The amount was increased to \$1,250,000 on December 5, 1950. Because of rising labor and material costs, it does not appear that this fund would be sufficient to produce the vessel desired. Continued failure to act will undoubtedly result in further increased costs.

The expensive engineering involved in designing a fire boat is of major importance. However, if New York City would plan three boats over a period of the next three to six years, the plans for the initial boat could be followed in building the succeeding two. Thus, the engineering fees per vessel will be reduced to one-third.

The wisdom of engaging the services of a topflight naval architect and marine engineer is reflected in the efficiency of the vessel produced, and the criterion for choosing the naval architect should be based on his ability to produce results rather than on cost alone.

One of the principal questions still to be resolved is the type of propulsion. A fire boat must be able to pump water and maneuver at the same time. There are three possible propulsion machinery arrangements that may be considered: (1) the diesel-electric; (2) direct diesel; and (3) steam. Of these, the diesel-electric is unquestionably the most flexible type of propulsion and it has given remarkable service in the fire boat *Fire*



*Fighter*. However, a diesel-electric vessel is the most expensive to construct. The *Fire Fighter* cost \$924,000 in 1937. Today a vessel of this type would probably cost at least 75 percent more. While not too important, there is also a loss of about 12 percent of the brake horsepower of the prime mover through conversion to electric final drive.

The second possible machinery arrangement is direct-diesel propulsion. This is becoming increasingly popular. It is much cheaper to build than the diesel-electric and, while not as flexible, can if well engineered give entirely satisfactory performance. Such an arrangement would require one diesel engine for each shaft and one diesel engine to drive each centrifugal fire pump. Four diesel-engine-driven centrifugal fire pumps of 2,500 gpm. each will be required to produce the desired pumping capacity of 10,000 gpm. This arrangement has the advantage, in case of a failure of one of the pumping motors, of retaining 75 percent of the available pumping capacity while repairs are being made. Most diesel engine repairs can be made without removing the engine from the hull.

The final alternative is a steam-propelled vessel. This type is quite reliable and is at present utilized in seven of the vessels in the Marine Division. The marine repair shop is equipped to handle most of the maintenance involved in the proper upkeep of a steam plant; but when steam is considered in connection with twin screws, the cost increases rapidly and nullifies much of the advantage gained through a low initial expenditure. Furthermore, since steam pressure must always be maintained, there is considerable standby expense involved.

It would appear, therefore, that the

best type of fire boat for New York City to standardize on would be a direct-diesel vessel with pilothouse control. Such a vessel should be designed to use a diesel engine for each of the two screws. Four diesel engines should be used to drive the four two-stage centrifugal fire pumps, each having a capacity of 2,500 gpm. at 150 lb. per sq. in. Quick-operating crossover valves should be included in the piping so that all four pumps could operate in parallel giving the combined discharge of 10,000 gpm. at 150 lb. per sq. in., or operate through a series-parallel hookup which would take the discharge from two pumps into the suction of the other two, resulting in the delivery of 5,000 gpm. at 300 lb. per sq. in.

Care should be taken in the design of the vessel to keep the size of deck housing as small as possible. The more unobstructed deck space provided in a fire boat the more effective will be its operation. The bow nozzle should have 5,000-gpm. capacity; two 3,000-gpm. nozzles should be located on top of the pilot house, two other 3,000-gpm. nozzles should be located on top of the deckhouse aft. There should be one 3,000-gpm. nozzle on an elevated mast approximately 55 ft. above the waterline.

The boat should include air-conditioning equipment and air compressors similar to those now installed in the fire boat *Fire Fighter*. Consideration should be given to the installation of a three-ton, low-pressure, refrigerated carbon-dioxide tank with suitable reinforced hose and nozzles. This method of handling fires is relatively new and heretofore has not been widely used by the New York Marine Division; but it is felt that there are definite possibilities of perfecting the technique of carbon-



dioxide fire-fighting which will result in an enormous saving of cargoes since all water damage is eliminated.

The fire boat should include short-range radar equipment to permit safe operation under fog conditions. It should be designed for pilothouse control. Its equipment should also include mechanical foam generators, nozzles, and stocks of liquid foam stabilizer to be carried in tanks. The pilothouse, deckhouse, and waist of the vessel should be protected by a waterspray system. A 16-ft. motor boat should be provided with a prime mover and a small fire pump with 1½-in. outlet so that the boat can be used under piers. Other items of equipment, such as breathing apparatus, acetylene cutting torches, and exposure suits, should be provided.

The cost of such a vessel in the present labor and material market will probably be between \$1,450,000 and \$1,500,000 including engineering fees and supervision of construction.

The shallow waters adjacent to City Island are filled with millions of dollars worth of yachts and motor boats, all out of reach of land fire apparatus in the event of fire. Jutting into the waters around City Island are numerous marine railways, small piers and docks. A somewhat comparable situation exists in Jamaica Bay.

It is, therefore, recommended that the Marine Division be equipped with two 50-ft., twin-engine, twin-screw, flushdeck, gasoline - motor - propelled launches. These launches should be sturdily built and equipped with a 1,000-gpm. water pump of the centrifugal type that could be operated through a power takeoff from one of the propulsion motors. It should also carry mechanical liquid-foam-generating equip-

ment and a quantity of mechanical foam stabilizer and foam nozzles. It should carry about 6 lengths of 2½-in. hose and 6 lengths of 1½-in. hose. A small deck pipe should be provided at the bow of this launch as well as nozzles that would furnish either a solid stream or fog. These small light draft boats should be serviced, maintained, and operated by the Marine Division. For this purpose there should be at all times one man on duty with each boat, whose duties would be restricted to this field. The personnel for fire-fighting would come from land fire companies whenever the service of this craft was required, and the boat, therefore, should be tied up to some location convenient and easily accessible from land.\*

While it is difficult within the time limits of this survey to estimate the cost of such a craft, it is believed that they could be secured at a cost of about \$60,000 each.

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\*ED. NOTE: The following comments were received by the Mayor's Committee from its engineer, A. C. Hutson: "The arguments put forward for a boat of 10,000 gpm.-capacity to permit the demolition effect of large fire streams has been used for many years in the New York Fire Department, but there is little or no actual evidence that these large fire streams have any value. The fact that piers are horizontal flues makes it very questionable if the breaking of skylights or opening of roofs by demolition, if such is possible, enables land companies to advance onto the pier. The use of 5,000 gpm. in one stream is a serious waste of effectiveness, making it hard to hold the boat in proper position, as well as being very dangerous to the men. Even a 3,000-gpm. stream is too big. In the case of the *Normandy*, the loads of water thrown by these large nozzles resulted in a top-heavy boat which consequently overturned. Some comment is made that the Philadelphia boat is too small for service in the lower bay or the ocean. It is my understanding that many ocean-going tugs are smaller. In connection with the recommendation for the light-draft, twin-engine boats, it would be well to look into the Hanley type of shallow draft fire boat. Two of these are in service in Newark, and several were used by the Coast Guard and the Navy. They would be much cheaper and equally serviceable."



## Relocation of Activities

The headquarters of the Marine Division and the quarters of the fire boat *Fire Fighter*, Engine Company 57, are temporarily located at Pier 1 in the North River. This location is totally unsuited for Fire Department use. Originally Engine Company 57 and the Chief of the Marine Division occupied a site in Battery Park. The construction of the recently opened Brooklyn-Manhattan tunnel caused the temporary relocation of this activity to Pier 1. There is considerable water-borne traffic in and around Pier 1, particularly in the summertime when excursion boats are operating. These vessels are constantly cluttering the pierhead and interfere with the prompt response and operation of the fire boat. It is recommended that appropriate quarters and a berth for Engine Company 57, the *Fire Fighter*, and headquarters for the Marine Division be constructed in or around Battery Park. This would permit the release of the space now used on Pier 1 to the Department of Marine and Aviation for lease to private enterprise.

At present the Fire Department marine repair shop is located contiguous to the berth of the fire boat *Harvey*, Engine Company 86. Chief Holian, who commands the Marine Division, pointed out that this facility might better be located near the berth of the fire boat *Hewitt*, Engine Company 77, at the foot of Fulton Street, Brooklyn East River. His suggestion is concurred with. There seems to be ample space close to the berth of Engine Company 77 in the vicinity of the abandoned ferry slip or on the bulkhead nearby. If the marine shop were located here, the marine store-room and paint shop and the office of the supervising engineers of the Ma-

rine Division could all be included in the one location. This in turn would permit the removal of the existing repair shop from the bulkhead south of Pier 54, North River. This space would then be free for commercial use or lease.

## Reorganization

There are four senior chief officers assigned to the Marine Division and four junior chief officers (battalion chiefs) assigned to the marine battalion. The jurisdiction of these chief officers in connection with Marine Division activities is largely duplicative. The commanding officer of the Marine Division is on duty for 24 hours every fourth day. This schedule of duty is very inefficient because his duties require that he supervise shipyard repairs and overhaul of the fire boats, be available to interview representatives of firms having business with the Marine Division, and be the administering officer of the Marine Division as well as its fire-fighting head.

It is strongly recommended that the commanding officer of the Marine Division be on duty from nine o'clock A.M. to five o'clock P.M. each weekday and that he be free every night, Saturday, Sunday, and holidays. During these times, in the event of serious fire or emergency he could be recalled by telephone. Should this suggestion be adopted by the Fire Department, it would free the three other senior officers for assignment by the Chief of Department to other duties ashore and it would greatly expedite the transaction of Marine Division business; and it would not lessen in any respect the supervision of fire fighting operations since the battalion chiefs in the Marine Division would continue on supervisory duty as at present.



## SUMMARY OF RECOMMENDATIONS

(1) Long-range equipment planning of the Marine Division should be predicated on the assumption that the useful life of a fire boat would be about 54 years. Since there would be nine fire boats in regular service, this would mean the procurement of one new fire boat every six years, and it is, therefore, recommended that this schedule be set up.

(2) The fire boats *Hewitt*, *McClellan* and *Lawrence* are coal-burning steam-propelled vessels using reciprocating fire pumps. These three vessels are obsolete and depreciating so rapidly that expenditures of additional money in an effort to recondition them is not justified. They should be replaced as soon as possible.

(3) Action should be initiated immediately to engage a competent naval architect to develop a standard plan for future New York City fire boats. Contracts should be negotiated for three of these vessels to replace the *Hewitt*, the *McClellan* and the *Lawrence*. The first vessel should be built and delivered as soon as possible, the second delivered within three years, and the third within six years.

The general characteristics of the proposed vessels stated in the body of this report should govern, but the widest latitude should be allowed in the design of the vessel so that it could serve as a standard for many years.

(4) Two light-draft, twin-engine, twin-screw, flush-deck, gasoline-propelled launches should be procured for shoal-water operation, one to be located at City Island and the other in Jamaica Bay. The exact location should be determined by the Chief of the Marine

Division and approved by the Chief of Department. One man from the Marine Division should be on duty at all times with each boat for maintenance, operation, and navigation.

(5) The present berth of the fire boat *Cornelius W. Lawrence* at the foot of 135th Street and the Harlem River, Manhattan, should be abandoned. The *Lawrence* should be reassigned to the berth at the foot of Grant Street and the East River, Manhattan.

(6) The number of fire boat companies should be reduced from ten to nine with the explicit understanding that a reserve boat be retained as a standby to replace first-line vessels temporarily out of service for repairs or inspection. This reserve vessel would be the last one relieved from service through the delivery of a new vessel.

(7) New quarters and a berth should be provided in Battery Park for the Headquarters of the Marine Division, Engine Company 57, and the *Fire Fighter*. Upon completion of the new facilities, the present use of Pier 1, North River, should be discontinued and the property revert to the Department of Marine and Aviation for lease.

(8) Facilities should be provided contiguous to the berth of Engine Company 77 at the foot of Fulton Street and the East River, Brooklyn, to house the marine repair shops, stockroom, paint storeroom, and office of the supervising engineers of the Marine Division. When this is accomplished the present site of the marine repair shop on the bulkhead south of Pier 54, North River, should be released to the Department of Marine and Aviation for lease.



(9) The command of the Marine Division should be vested in a single senior officer with the rank of Commander of the Marine Division, comparable in dignity to the rank of Assistant Chief of Department. This officer should be responsible for the administration of the Marine Division and report directly to the Chief of Depart-

ment. His tours of duty should be from 9:00 A.M. to 5:00 P.M. on usual business days so that he will be available to carry on the continuity of business with dispatch and efficiency. He should be available for telephone recall in emergencies. The other three senior officers should be released to assignment ashore.

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## SECTION 6

# SURVEY OF TRAINING

By

J. W. JUST

After a comprehensive survey of the training program of the New York Fire Department only one conclusion is possible. Very little advance has been made in the program over the past 20 years. No real effort has been made to keep informed of the improvements in technique, subject matter, training aids, instructor training, or even the thinking in connection with training, of departments, individuals, or training schools outside the confines of New York City.

More specifically, the following conditions were found to exist:

(1) The subjects covered in the several "schools" and the "Fire College" are not adequate or sufficiently comprehensive and have not been subjected to

the continuing research and revision demanded by changing conditions, equipment, and experience.

(2) No really selective method of locating or singling out qualified men for specialized training appears to exist, nor is there any reasonable method of selecting instructors for the Fire College. There is a long-standing practice of bringing in an officer, year after year, who has acquired a lecture hobby on some specific subject.

(3) The Training School is making no attempt to develop men for promotion. No material of an informative or educational nature is placed in the hands of probationary firemen or lieutenants, following lectures or class sessions. (Newly made lieutenants are given a series of some 30 routine lectures, and from there on nothing



further is aimed at their education by the Department.)

Nothing in the nature of a firemanic library is maintained at the Fire College; the only available sources of information for the rank and file firemen are the bulletins published by the National Board of Fire Underwriters and an occasional bit of information of an educational nature published in W.N.Y.F.—the Fire Department magazine. The “Official Action Guide for the Uniformed Force” is primarily a guide to the personal conduct and official duties of members of the Department. The description of 25 fire school evolutions in the supplement is, without illustrations, of doubtful value. This situation makes it appear almost necessary for the ambitious firemen to patronize outside institutions, on his own time and expense, in order to secure information of an educational nature that *should* be made available by his own department.

(4) The teaching staff is wholly inadequate. There is not a single individual in the entire Department of over 10,000 men assigned to devote full time to training. Thus the training program in the world's largest Fire Department is given the rather dubious ranking of an orphan child.

Fire College “lectures” are read by officers who have been reading the same lectures for years. In the event that the officer cannot come in, the paper is pulled out of the files and someone else reads it. Some of these papers apparently have not been changed in many years. There has been no attempt, in recent years at least, to provide a permanent staff of *trained* instructors. It naturally follows that there is no personnel available to conduct research pertaining to new or different fire-

fighting techniques or equipment, or new educational or training methods.

(5) Assuming that something of importance should develop at the school, there is no adequate machinery set up to get information down to the rank and file firemen who, after all, do the actual fire-fighting.

(6) It is believed that, with a few exceptions, the officer personnel of the Department are fully cognizant of the glaring deficiencies in the training program; however, they appear to have adopted a defeatist attitude due to the frequently heard complaint that funds are never made available for even the simplest needs of the training school.

(7) In summarization, the cold facts of the matter are that the New York Fire College has lost prestige with the officers and members of the Department, and in no informed quarters—in New York or outside—does it rate the respect or importance a training program should merit in a department of this size.

The suggested training plan submitted herewith, along with the suggested means of developing it, should represent an absolute minimum requirement for a modern Fire Department the size of that of New York City.

It should be clearly realized by all concerned that the ultimate success, mediocrity, or dismal failure of this plan is almost entirely dependent upon the method and care used in the selection and training of the educational staff. It is because of this fact that this Report goes so far as to suggest a plan for the selection and preparation of training personnel.

It is equally important that all officers thoroughly understand the basic purposes underlying a good instructional program, as well as their part, as indi-



viduals, in the success of such a program. These basic purposes can be summarized briefly as follows:

(1) To train all men adequately in the proper use and special emergency uses of all apparatus, tools, and equipment used by the Department.

(2) To provide the necessary related information in connection with the profession of fire-fighting to enable all men to do a better and more intelligent job on the fire ground.

(3) To keep all men in the Department abreast of the times in fire-fighting technique as well as the manual operations required of them.

(4) To be continuously preparing men for promotion within the Department.

(5) To observe the operational and service characteristics of the various types of fire apparatus and equipment in order to make intelligent recommendations to the Chief of Department as to the type of equipment best suited to the specific requirements of the Department.

It should be made clear to all officers and men that training is not complete until it is actually applied on the job, and proper advantage is taken of the *additional* knowledge gained by this application and experience. It is such knowledge, born of day-to-day experience, that should be brought out in officer conferences and used in continuing revisions of the Fire College instructional materials.

It must be expected that the establishment of an efficient and adequate training program in a department of this size—especially where the department has so far outgrown its training facilities—will cost more than the present inadequate and haphazard plan. However, the money so expended will pay dividends in more efficient fire-

fighting; reduced fire, smoke, and water loss; and fewer accidents.

The New York Fire Department, with over 8,500 men and 1,700 officers, has sufficient high-grade talent within the Department itself to provide a competent and outstanding instructional staff, provided that an honest effort is made to locate and utilize such talent. Of course, proper inducements in the matter of pay and rank should be arranged as an incentive for qualified men to want to serve. As a matter of fact, the inducements should be such, and the qualifications so rigid, as to make it a matter of pride to be selected to serve on the instructional staff.

### The Physical Plant

Present facilities, both at the Fire College and the Probationers School, are wholly inadequate, both as to space and as to training aids. The Fire College has but one small classroom with a portable blackboard. The Probationers School has only a makeshift classroom in a garage. There has been some talk in recent years of erecting a new training plant, patterned along the lines of the Navy Firefighters School, at a City-owned location on the Gowanus Canal in Brooklyn.

This suggestion has real merit; however, certain salient facts should be clearly understood. The Navy type of training, which provides work under actual fire and smoke conditions, must be used in the Probationers School in order for it to be effective.

The value of this type of instruction lies in the accomplishment of two simple objectives: (1) to give the men confidence in their equipment, and (2) to give them a partial indoctrination course under actual heat and smoke con-



ditions, rather than have them get it the hard way at their first actual fire.

As it is evident that all the types of fires that may be encountered in New York City cannot possibly be simulated at a training school, it should follow that such a setup will possess value

only in training probationary men and in preparation for the adoption of new equipment, the use of which would be better taught to all men under actual heat and smoke conditions. An example of this would be training in the use of gas masks.

## A SUGGESTED NEW TRAINING PROGRAM

(1) New quarters for all training activities should be provided at some proper location where smoke will not present a neighborhood problem. It is suggested that Randall's Island be considered in preference to the Gowanus Canal site, as it would be more centrally located and the smoke problem would be at a minimum. Another possible site might be Flushing Meadows. However, if the Flushing Meadows site is used, it is suggested that a training tower be erected on Randall's Island for the Manhattan and Bronx companies' refresher courses.

The plant itself should consist of several specially designed fireproof structures in which fires may be built and fire problems worked out.

There should also be a Fire College Building with several adequate classrooms and space for fixed training aids such as cutaway pumps, automatic sprinkler equipment, refrigeration equipment, air-conditioning equipment, fire alarm and fire-detection equipment, etc. Facilities should also be provided for instruction in modern salvage methods.

Adequate facilities should be provided for complete pump-operations instruction, with apparatus permanently assigned to the college, and ample facilities for pumping, both from hydrant and from draft, all enclosed from the

weather, and thus available for year-round training.

A skeleton-type training tower of at least six stories in height should be provided, with inside stairs and outside fire escapes and standpipe, to provide adequate facilities for ladder and hose training for probationary men. Four other towers should be erected at strategic locations (for example, in the 5th, 8th, 13th and 15th Division Areas) for the annual company refresher courses to show and develop proper teamwork in fireground evolutions.

(2) Adequate training aids should be provided, such as viewgraph or opaque projectors, motion picture cameras and projectors, charts, cutaway devices, operating models, operative sprinkler equipment, automatic fire detection equipment. A complete firemanic library should be developed at the Fire College, and selected materials should be provided in the quarters of all companies, with regular revisions and additions by the training section staff.

(3) The Fire College and Probationary School should be reorganized as the New York Fire Department Educational and Training Section with a permanent staff as hereinafter outlined, and should be given Civil Service status, with the absolute legal minimum of consideration being given for veteran's preference or seniority. This



section should be based solely upon instructional ability with a reasonable background of experience.

(4) A Civil Service examination should be held for a Director of the Educational and Training Section. The most important item in this examination should be a thesis based upon these recommendations for training in the New York Fire Department. This paper should be judged by outside authorities.

Age considerations would indicate that eligibles for this examination should be battalion chiefs and captains; however, the successful candidate should receive the rank and pay of Deputy Chief.

(5) All candidates receiving a passing grade in the examination for Director should be given a 36-hour teacher training course, under a trainer from the U.S. Office of Education of Washington, D. C. The Director, with a neutral, competent observer, should sit in on this course of instruction. At the completion of the course, these two men, with the instructor, should be able to select the balance of the training staff, i.e., ten full-time men for assignment to the Fire College and five area instructors. (This instruction would probably have to be conducted in two or more groups, as 20 to 25 men are sufficient for one class.)

The 16 men finally selected for a training staff (and this should be the minimum number in a Department of over 10,000 men) should next be given a 36-hour course in Leadership Training by a competent leadership trainer, who could also be obtained from the U. S. Office of Education.\*

\*ED. NOTE: Or, as the consultant later amended this Report, the leader could be obtained locally, perhaps through New York University.

(6) Schools should be established as indicated in the accompanying table, and schedules planned to make such schools effective.

## INSTRUCTIONAL FUNCTIONS OF THE FIRE COLLEGE

### A — Fire College

- 1—Probationary School  
Fire College Staff  
Held as necessary  
60 days  
Manual evolutions
- 2—Company Officers School  
Area Instructors  
Every two months  
3 hours  
To pass along data from the Fire College and discuss experience
- 3—Company Refresher School  
Fire College Staff  
Annually  
One-half day  
Companies brought in in pairs, and without advance notice for check on evolutions and teamwork
- 4—Chief Officers Conference  
Director of Fire College  
Monthly  
2 hours  
All officers above rank of captain  
Suggestions for training  
Post mortems on fires  
Changes in rules
- 5—Officers Candidate School  
Fire College Staff  
As necessary  
To give officer candidates a review and refresher prior to promotional examinations
- 6—Area Instructors School  
Fire College Staff  
Monthly  
3 hours  
New data or information of an educational nature to be passed on to company officers
- 7—Company School  
Company Officers  
Daily  
2 hours  
New data



- Evolutions refresher
- Post mortems on fires
- 8—Motor and Pump Operators School
  - Fire College Staff
  - Daily
  - One day
  - Groups of not over ten pump operators for refresher course
  - One-week school as required for new operators
- 9—Fire Prevention School
  - Fire College Staff
  - One week
  - As necessary for new inspectors
  - Refresher course semi-annually
- 10—Other Special Schools
  - Fire College Staff
  - As required
  - Such as—
    - Drivers School
    - Administrators School
    - Special Hazards School
    - Fire Alarm and Fire Detection School
    - Fire protection education

## B — Related Staff Activities

- 1—Digest and co-ordinate information from all sources and prepare instructional manuals, bulletins, etc. for distribution and use throughout the Department.  
Keep instructional material continually revised and up-to-date.
- 2—Prepare instructional materials such as motion pictures, slides, graphs, charts, models, etc.  
Develop a firemanic and film library.  
Publish a monthly educational bulletin for distribution to all Department members or provide a regular section for W.N.Y.F.
- 3—Conduct a research program in connection with new techniques, new devices, new materials, new applications of existing equipment:
  - Fog nozzles
  - Gas masks
  - Wetting agents and fire apparatus.
- 4—Prepare and keep an accurate card file record of every man's training activities and grades.  
Carry on a continuous safety program.

(7) Arrangements should be made to acquire training manuals and other materials from all parts of the country, and the Fire College staff should carefully review such materials, as well as the evolutions and lectures at present being used in New York, and should compile a series of new instructional guides, manuals, and lectures that would bring the Department up to date, both in the matter of classroom instruction and fire-ground evolutions. Mimeographed or printed instructional material should be provided for the Probationers School, Pump Operators School, Inspection School, and Company School, and put in the hands of men completing these courses.

(8) Research should be started and carried to a conclusion on the use of fog nozzles, wetting agents, and gas masks, and proper instruction should be developed and promulgated in order that the Department may profit by the use of same. Techniques used elsewhere with the 1½ in.-hose should be studied and adopted wherever practical.

(9) While changes in teaching or operational techniques may and should be discussed in Chief Officers Conferences, authority should be vested exclusively in the Fire College staff, with approval of the Chief of Department to develop and put same into effect in the departmental training program.

(10) The Fire College should send an instructor to all multiple alarm fires to photograph (preferably in motion pictures) and study fire-fighting and operational techniques for review and analysis in the Fire College. Lessons so learned should then be made available to all members of the Department as soon as possible.

(11) The Director of the Educational and Training Section, along with sev-



eral of his staff, should be sent to the Fire Department Instructors Conference held each January in Memphis. Members of the staff should also be given memberships in such organizations as the National Fire Protection Association and the International Asso-

ciation of Arson Investigators.

(12) All classroom lectures and discussions should be completely transcribed during the class sessions for later study by the Fire College staff and, after proper editing, should be distributed to members of the Department.\*

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## SECTION 7

# ORGANIZATION AND MANAGEMENT

By

ARTHUR LAZARUS

There were 44,370 fires in New York City in 1950, of which 21,301 were building fires. Estimated loss caused by the latter was approximately \$19,500,000, or \$916 per fire. Building fires per 1,000 population were 2.7. Only 2 of 18 cities with population over 500,000 had a lower rate. 1950 loss per capita in New York City was \$2.44. Number of employees in the New York Fire Department was 1.41 per 1,000 population. Of 18 cities over 500,000, 6 had a higher ratio, 11 had a lower ratio.

Fire-fighting morale is high. Critics have claimed that the Department is reactionary and moss-backed. That is unfair. The present Chief of Department has an open mind on apparatus, fire-fighting methods, and Department procedures. The initial response to the 1948 Citizens Budget Commission's Report was one of violent opposition, but

it is our impression that such report is still a living document, with its recommendations being weighed and gradually adopted.

### Top Organization

Organization proposed by this Report\*\* calls for only two executives to

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\*ED. NOTE: As of July, 1951, the following analysis of costs was made: Current personnel budget for Fire College—\$45,000, covering full-time administrative personnel, but excluding cost of officers assigned part-time as lecturers. Personnel budget for proposed Educational and Training Section—\$106,000, for full-time instructional and administrative personnel. Increase in budget—\$61,000.

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\*\*ED. NOTE: Organization at the time of this Report called for the following executives to report directly to the Commissioner: the three Deputy Commissioners; the heads of the Bureaus of Fire, Fire Investigation, Fire Alarm Telegraph, Fire Department Buildings; the Chief of Department; and 11 heads of special boards and committees. This setup resulted from a recent top reorganization effected by the then newly-appointed Commissioner, and was intended to eliminate some serious difficulties resulting from duality of command by the Chief of Department and the "Chief of Staff and Operations."

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Digest from "A Comprehensive Review of the Nontechnical Operations of the Fire Department of the City of New York," by Arthur Lazarus, December 15, 1951.



report directly to the Commissioner — the Chief of Department and the First Deputy Commissioner in Charge of Administration—though he will frequently call upon other executives, such as the Fire Marshal, Public Relations Director, Controller (Finance and Supply), and Personnel Manager. The Chief of Department is given supervision over Fire Protection and Fire Extinguishment. Fire Protection will include Fire Investigation, Fire Prevention and Combustibles, and the inspection of Licensed Places of Public Assembly. All these activities will be directed by the Fire Marshal, subject to the supervision of the Chief of Department.

The Chief of Department will have two principal deputies as assistants. One will be in charge of all technical services, comprising the Division of Fire Alarm Telegraph, the Alarm Assignment and Planning Section, the Division of Repairs and Transportation, the Fire College and Medical Division. The other will be in charge of the line direction of the Uniformed Force.

The First Deputy Fire Commissioner will have charge of Personnel and Labor Relations, Public Relations, and Legal Division, Finance and Supply, and Building Maintenance. It is urged that the Division of Finance and Sup-

ply be developed into a control division in the fullest sense; that the scope of Public Relations be widened to include responsibility for public education in fire prevention; and that a Personnel Relations Section be created.

The proposed organization provides for neither a Second nor a Third Deputy Fire Commissioner. These eliminations, with accompanying aides and receptionists, would permit an incidental saving of approximately \$70,000 a year, although the suggestion is not made as an economy move primarily.

Meetings of the various special boards and committees are time-consuming, and the tendency to form such boards and committees should be discouraged. Consideration should be given to abolishing at least four of them: the Board of Hazardous Trades, the Board of Fire Extinguishing Appliances, the Personnel Board, and the Board of Inquiry.

A new City-wide departmental headquarters is needed. Some provision for such headquarters is made in the 1952 capital budget, but the plans and scope should be reviewed, the proposal for a Brooklyn Headquarters dropped, and the City-wide project given better than 17th priority rating.

## BUREAU OF ADMINISTRATION

The proposed organization of the Bureau of Administration under the First Deputy Fire Commissioner is designed to relieve the Chief of Department of all dispensable administrative detail, and also to provide a necessary part of a system of checks and balances. It is conceived of as a totally civilian bureau. This Report does not favor membership of the First Deputy Commis-

sioner on any special board or committee dealing primarily with problems of fire extinguishment or fire prevention.

### Division of Finance and Supply

The objective is to make this division a full-fledged controller's division of the Fire Department. To its present sections — Payroll; Pensions and Insurance; Requisition and Supply; and the



temporary Brooklyn Unit—are added a Machine Accounting and Control Unit; a Central Statistical Unit; the Cashiering Section; the Analytical Unit; and a small Administrative Services Unit.

**Operating Budget**—There does not appear to be any special unit in the present Division of Finance and Supply which deals with the budget.

Too great reliance is being placed on the prior year's usage, rather than on undertaking an independent analysis of the expenditure in the supplies and expenditures budget.

A considerable amount of effort is expended within the Department and by the Bureau of the Budget in the analysis of budget estimates, but this analysis is largely by items of expense and bears no relation to anticipated performance. In fact, few standards of performance have been established. It is therefore extremely difficult to say whether budget allowances are either too high or too low. Budgetary awareness is not generally manifested by the divisions or bureaus, the Bureau of Fire Alarm Telegraph being a notable exception.

A departmental analysis is an indispensable tool for the exercise of effective control over the \$53,000,000, exclusive of pensions, which is now required for the operation of the Fire Department. Concurrently, standards of performance for the divisions and bureaus need to be developed as convenient measuring sticks. The budget should not remain an orphan of the Division of Finance and Supply. One person should be delegated to its preparation and supervision.

For the purpose of making the budget figures more significant, we reinterpreted them upon a department or

bureau basis, making such analyses for the 1949-1950 Actual Expenses and Personnel, the 1950-1951 Budgeted Expenses and Personnel, the 1950-1951 Actual Expenses and Personnel, and the 1951-1952 Budgeted Expenses and Personnel. This restatement required an analysis of important items and lines and budgetary codes. Personnel was allocated on the basis of actual and determined-upon employment. The detailed comparative schedules were transmitted to the Department as a guide for advanced budgetary control.

**Capital Budget**—The pending capital projects total \$20,336,502 (\$5,247,111 appropriated as of June 30, 1951) and the proposed capital projects total \$13,506,575.

The conferences underlying the preparation of the capital budget are not searching, but stereotyped. A thorough review is called for before recommending four fire boats at \$1,500,000 each. There are serious doubts concerning the continuing usefulness of a Brooklyn office building at \$1,600,000 in view of the trend to regard the Fire Department as a City-wide, rather than a Borough activity. The listing of 25 or 35 fire houses in a capital program is unrealistic when only one or two are built a year, and when that program itself is a constant repetition of recommendations made in 1946. Whether the Hutson recommendations to eliminate 49 engine and truck companies (see pp. ) are accepted or not, these recommendations should at least prompt a re-examination of the fire-house needs of the Department.

**Payroll Section**—Payrolls are divided into two classes—Uniformed Force and Civilian Force. With respect to the former, discontinuance of requiring employees to sign a payroll sheet is urged,



as an obsolete practice where payment is made by check. A more careful check of corrected basic addressograph plates by the Payroll Division of the Comptroller's Office will avoid considerable unnecessary clerical effort in the Payroll Section. Detailed checking of rate cards for pension deductions against payroll for 3,500 members of Article I-B Fund can be eliminated. Only changes affecting current payrolls numbering 40 to 50 should require verification.

With respect to the civilian payroll, the detailed records, such as lists of Department vacancies, individual records of salaries earned and deductions, etc., were analyzed and recommended to the Department for transfer to the proposed Personnel Relations Section.

**Pension and Life Insurance Section**—The pension and life insurance plans presently in force and variously administered are multitudinous in their detail. The various plans are governed by the Board of Trustees, comprising a membership of the Fire Commissioner, the Comptroller of the City, and several representatives of the Uniformed Firemen's Association. Study by the Division of Analysis, Bureau of the Budget, on transferring the administration of exempt firemen's benevolent funds to the Fire Commissioner and changed handling of payments to the Volunteer Firemen's Home can bring about an annual saving of \$165,000.

The pension and life insurance fund activity should not be carried on in the Fire Department at all. However, assuming that the process is too deeply ingrained to be readily changed, suggestions are offered for streamlining and simplifying the procedures involved.

Recommendations of the Division of Analysis with respect to exempt Firemen's Benevolent Funds and Volunteer

Firemen's Home should be followed up vigorously.

**Requisition and Supply Section**—Approximately 15,000 annual requisition and purchase orders are handled.

Purchasing Department processes require speeding up. Annual and quarterly supply requisitions might be staggered to relieve peak loads. Unwieldy records could be eliminated by maintaining current yearly ledgers, records, and journals. Perpetual inventory records of stores, supplies, equipment, and apparatus should be installed and maintained.

**Brooklyn Unit**—This temporary unit of the Division of Finance and Supply was set up to determine the insurance and pension liability of members of the Fire Department while in military service in World War II.

The Brooklyn unit is a glaring example of the excessive costs involved in using uniformed men for clerical operations in which they are obviously inexperienced. The unit is answerable partly to the head of the Division of Finance and Supply, and partly to the Chief of Department, thereby prohibiting effective supervision. Its operation should be closed out as speedily as possible.

*Additional functions* suggested for the Division of Finance and Supply, so that it will become more nearly a full-fledged controller's division, are a Machine Accounting Unit, Cashier's Unit, Statistical Unit, Analytical Unit, and Administrative Services Unit. The Machine Accounting Unit, proposed by the Division of Analysis as part of the Division of Combustibles, is self-contained, and is here proposed as part of Finance and Supply, partly to permit its use in other repetitive clerical operations. It is strongly urged that the Analytical Unit be completely civilian, and



that it be part of the Division of Finance and Supply.

### **Legal Section**

Civilians should be substituted for the uniformed members of the legal staff. Professional careers in the Fire Department should lie in fire-fighting first and foremost, and not in collateral legal, accounting, or clerical pursuits.

### **Personnel Relations Section**

It is urged that provision be made for position classification and compensation, and better training and recruitment, together with manpower policy on retirement, disabled men, and working hours. The proposed Personnel Relations Section should take over all personnel routines mentioned, as well as welfare activities. At present, personnel records are kept at the busy Headquarters Office of the Uniformed Force, and the time of six full-duty firemen is now involved in record-keeping, properly the function of a personnel department.

A fixed retirement age of 63 years has been established for the Police Department. A similar age limit should be adopted for the Fire Department. The Fire Department requires a youthful personnel and the younger men need the encouragement of a reasonably rapid rotation of responsibility. Seven deputy chiefs and fourteen battalion chiefs are now 63 years of age or older.

Hearings of employees charged with infractions of the Rules and Regulations should be carried on by the First Deputy Commissioner for all Boroughs.

### **Public Relations Section**

It is urged that the base for public relations be broadened by extending to it supervision over Department activities and facilities which have public re-

lations characteristics, and by asking it to take the initiative with respect to a broad and continuous campaign of public education in fire prevention.

Of 124 deaths resulting from fires in New York City during 1950, 52 were directly traceable to smoking carelessness, candle carelessness, and to children playing with matches. Of a property loss of \$19,500,000, \$5,700,000 was caused by carelessness. Suggestions for a hard-hitting fire prevention program include eliciting the help of interested civic and other organizations; better communication as used in other communities; a school program; and a continuing Advisory Committee, made up of outstanding public-spirited executives, to assist in sponsoring on a year-round basis the types of activities usually concentrated in Fire Prevention Week.

### **Building and Maintenance Section**

The Department has 279 buildings scattered throughout the five Boroughs. New building construction is handled by the Department of Public Works. Only essential repairs are being made, and the general condition of quarters from a maintenance standpoint is unsatisfactory.

Clerical routines of the Building and Maintenance Section were examined, and the following suggestions are made: copying of payrolls into the record book should be discontinued; hand posting of contract record could be eliminated by using letter of authorization for informational purposes; excess clerical effort should be eliminated by studying filing, and logs and card records of requisitions; study should be made of the detailed cost report sent to the Division of Finance and Supply, and of the stores control procedures, for which perpetual inventory cards are not being used.



## BUREAU OF FIRE PROTECTION

The term "Fire Protection" is used here rather than the more common "Fire Prevention" because the latter has been pre-empted for a long time to designate one of the divisions of the Department.

The organization of the Bureau of Fire Protection as here proposed takes in investigational and regulatory functions. It comprises three divisions: Fire Investigation; Combustibles and Fire Prevention; and Licensed Places of Public Assembly. All are under the Chief Fire Marshal, reporting to the Chief of Department.\* Hitherto fire investigation has been treated as a function apart from prevention. In consonance with prevailing accepted Fire Department practice elsewhere, it is now regarded as an inseparable phase of, and perhaps the basis for, prevention and protection.

A Deputy Fire Marshal is proposed to be in operating charge of the Division of Fire Investigation; a Chief Inspector to have line direction of the Division of Fire Prevention and Combustibles; and an executive with equivalent rank of battalion chief for supervision of the Division of Licensed Places of Public Assembly.

### Division of Fire Investigation

At present known as the Bureau of Fire Investigation and headed by the Chief Fire Marshal, this is a basic, long-established activity. It is the prac-

tice of the division to investigate all building fires, and such other fires as are reported as suspicious or which require a second alarm. In 1950 there were 21,081\* building fires. The fires investigated are classed as serious or ordinary. Serious fires include second or greater alarms, serious explosions, fires resulting in fatalities, and fires whose origin is reported as suspicious or incendiary. In 1950, the ratio of maximum serious fires to total number investigated was 3.3 percent.

Detailed written procedures should be prepared for office use covering the investigation of the principal types of serious fires; and time records should be kept or work standards established by which to determine the average amount of time required for the investigation of either serious or ordinary fires.

On June 15, 1951, the Division of Fire Investigation had the following number of men on its staff: in Manhattan office, 33; in Brooklyn office, 14. The Bulletin, a daily list of fires, is the chief initiating source for investigations. The battalion chief attending the fire must make a telephone report from the scene of the fire giving certain basic information about the fire. However, this may be supplemented later by a more detailed report.

The consultant worked out an arrangement with the Fire Marshal under which he will, as heretofore, investigate all serious fires, those requiring multiple alarms, those which involve fatali-

\*ED. NOTE: Under the present organization, the Division of Fire Prevention and Combustibles and the Division of Licensed Places of Public Assembly report to the Chief of Department, while the Bureau of Fire Investigation reports separately to the Fire Commissioner.

\*ED. NOTE: Due to differences in compilation within the Fire Department, 21,301 was previously quoted.



ties, or are reported as of suspicious or incendiary origin. It is unlikely that these will exceed 3½ percent of all building fires and will probably not exceed 2 percent. He will also investigate ordinary fires of certain types. These are somewhat under 40 percent of total ordinary fires. All other ordinary fires are to be investigated and reported upon finally by the battalion chief, the Fire Marshal reserving the right to select any he desires for further investigation.

The Division of Fire Investigation maintains two offices: one in Manhattan, serving Manhattan, Bronx, and Richmond; and one in Brooklyn, serving Brooklyn and Queens. The consolidation of the two offices should be made without delay. (Also recommended by Citizens Budget Commission and the Division of Analysis.)

Statistical reports now compiled by the Division of Fire Investigation should be compiled centrally in a statistical section attached to the Division of Finance and Supply.

The division should make confidential investigations for the Fire Commissioner, but this should cover action and conduct at the scene of a fire, and the division should not be a departmental security agency.

### **Division of Fire Prevention and Combustibles**

This is a recent and not entirely assimilated merger of two formerly independent divisions—Fire Prevention and Combustibles.

This division should be one of the Fire Department's staunchest activities. Instead it is an ailing service with an illness which is progressive in character. Positive corrective measures are required.

Combustibles combines both regulatory and licensing powers—a combination not usually found in other cities. In 1950, some 222,520 combustible permits were issued, with \$1,664,304 in receipts bringing total revenues including other permits to \$1,850,347.

The fire prevention functions, as set forth in the Administrative Code, are so inexplicit that a very specialized and limited kind of fire prevention work has developed from their interpretation. As a result, the relatively small group of fire prevention inspectors and assistants is compelled to concentrate on only the most urgent cases.

Civilian and uniformed personnel amounted to 379 for the Division on July 7, 1951, at an annual budget of \$1,475,492. Another \$1,500,000 is required for the wages of the equivalent of 350 company building inspectors. The Report stresses that the division should not be looked upon primarily as revenue producing, and that it will remain a deficit operation, and concurs with the Citizens Budget Commission report that there is lack of qualitative and quantitative supervision.

The consultant instituted a check of performance records and trends. Whereas the condition of the Manhattan office is susceptible to considerable improvement, it is by no means hopeless; on the other hand, the condition in Brooklyn is critical enough to jeopardize the functioning of the entire Division.

The Chief of Department should be as actively responsible for the showing of the division as he is now responsible for performance in fire extinguishment. Other organizational recommendations include having all fire protection divisions, including the Division of Fire



Prevention and Combustibles, under the Chief Fire Marshal, and placing the Chief Inspector in charge of direct line management.

Simplification of regulations and procedures in the Division of Fire Prevention and Combustibles should be accomplished. To this end, the proposed organization provides for a technical aide to the Fire Marshal.

Effective operation of the Division of Fire Prevention and Combustibles requires the tightening of controls in the following respects:

(a) *Violations* — Present follow-through is weak. One competent and forceful inspector should be placed in over-all charge of violation orders. The company building inspector is kept in the dark re major violations.

(b) *Inspectional Assignments* — This should not be, as it is now, a routine matter for junior clerks.

(c) *Miscellaneous Activities*—One person should head this.

(d) *Examining* — A supervisory examiner should head all examining activities.

(e) *Control Through Planning* — Inspectional activities should be programmed six months to a year ahead. This should be the duty of the Technical Aide proposed.

Through our proposed reorganization, and the return to active duty of able-bodied uniformed personnel, it is our considered judgment that approximately \$700,000 can be saved in the operations of the Division of Fire Prevention and Combustibles, while at the same time performing a more effective fire prevention service to the City.

**Company Building Inspection**—Because of the fireman's practical interest in preventing the life hazard of fires, because of his proximity to the buildings to be inspected, and for several other reasons stated in the Report, the con-

sultants favor retention of the present system of building inspection by active fire-fighting personnel. Minor violations are at present enforced by the company building inspectors, and a good job is being done in this respect. However, enforcement of major violations is the responsibility of the central Division of Fire Prevention and Combustibles, and here the work is being inadequately handled.

The average building inspector appears to be about 35 years old. These vigorous and able-bodied firemen should be retained for full fire duty, and company building inspection reserved to the extent feasible for older men nearing 55, and for those on limited service whose disabilities do not inherently disqualify them for the walking and climbing involved in building inspection.

Too much of the time of the building inspector is taken up with licensing routine; this should be corrected, if the legislative approval to lighten the load of routine can be obtained.

More should be done to even out the work load of inspection. "Block-by-block" inspection is adhered to tolerably well. However, a more thorough system is "target" inspection, such as practiced in Cincinnati, in which buildings are inspected according to whatever category they are in.

Officers to an accelerating degree are living up to the requirement to devote at least 16 hours of their off-tour periods during each calendar month to inspection. The consultant does not agree with Worden & Risberg that multiple dwellings are not adequately inspected. The consultant does not agree with Worden & Risberg's deprecation of the value of company inspection—the latter consultants feeling that



the knowledge should be in the officer's head, not the head of a designated inspector. The present consultant feels that company cards, maintained absolutely up-to-date and complete, will provide the information for the officer.

The Division of Fire Prevention and Combustibles should take a more direct interest in what the company building inspector is doing, and how he can be helped. The Chief Inspector of the division should spend a day a week in the field with company building inspectors, guiding and advising them, and learning conditions first hand. There should be closer liaison between the division and the company building inspector on major violations.

The Fire Department should try out in purely residential districts the recommendation of the Citizens Budget Commission on taking an entire company with its apparatus and sending it out to make house-to-house fire prevention inspections. (This recommendation was predicated on installation of two-way radio and excepted areas of high buildings, heavy traffic, and poor radio reception.)

### **Division of Licensed Places of Public Assembly**

As of August 9, 1951, personnel comprised 44 members of the Uniformed

Forces (reduced since the present battalion chief took hold from 79—a reduction of 45 percent and, at present rates, of about \$150,000 in payroll). In 1950, 128,953 inspections were made, resulting in 5,055 violation orders. Certain reductions in overlapping inspections were recently made.

Much of the excess payroll has been squeezed out of the division. The head of the division agreed with the consultant that two separate offices were unnecessary, and accordingly the Brooklyn office was closed in July, 1951.

Additional savings can be made by better use of limited-service personnel to replace 31 full-duty men; use of civilian inspectors at prevailing rates of pay; and by taking over part of the work by company building inspectors (suggested by Citizens Budget Commission), and reduction in excess clerical work.

The present consultant strongly concurs in recommendations made by others, including the Fire Department Analytical Unit, that responsibility for fire safety in theaters should be borne by the theater owners and operators, and not by the Fire Department. Approximately 150,000 additional man-hours, representing a present cost of \$300,000, would thereby become available for line duty.

## **BUREAU OF FIRE EXTINGUISHMENT**

A realignment of the organization of the Bureau of Fire Extinguishment is proposed to simplify direction. The bureau is divided into two principal

offices, each in charge of a Deputy Chief comparable in rank to the present Assistants to the Chief—Office of Operations and Office of Technical Services.\*

\*ED. NOTE: Under the present organization, 15 organizational units report directly to the Chief of Department: Division of Combustibles; Division of Fire Prevention; Division of Licensed Places of Public Assembly; Alarm Assignment and Planning; Division of Repairs

and Transportation; Civil Defense; Printing Division; Medical Division; Military Service Division; Fire College and Division of Schools and Training; Department Chaplains; Photography Unit; Division of Personnel Records; Accident Prevention; Sappers & Miners.



## Status and Responsibilities of Chief of Department

The statement of duties of the Chief of Department as defined in Chapter 3 of Rules and Regulations for the Uniformed Force is outmoded. A proposed revision is under consideration, which the consultant feels is an improvement, although that revision gives permanent status to certain positions which the consultant believes should be abolished.

The Chief of Department should exercise supervision over all fire protection activities, including investigation, this to be accomplished through the Fire Marshal. The Chief of Department should have explicit control over the Fire College and the Division of Alarm Assignment and Planning, but these technical services, together with others, should be grouped under the Office of Technical Services. An Office of Operations should be created to replace the bifurcated and hybrid present arrangement of five Assistants to the Chief and four Borough Commanders for Brooklyn and Queens.

The Chief of Department's security of tenure should not be tampered with.

### Headquarters Staff

This represents a personal service

outlay of about \$250,000 a year. Certain shiftings of administrative and service functions are indicated, in line with recommendations made elsewhere.

### Required Manpower

The table of Uniformed Force budget as of August 20, 1951, calls for a total of 10,600. The roster of the same date totals 10,400. In addition, there are approximately 40 stokers on the fire boats, who may be considered part of the Uniformed Force. Required quotas were basically established in 1939, when firemen worked 50.4 hours per week. Now the average work week is 45.8 hours, and the vacation period has been extended. Hence the Chief of Department feels that the required quotas should be increased by 12 percent.

To supply the additional firemen indicated as required by the Chief of Department would cost the City between \$5,000,000 and \$6,000,000 a year. Using the requirements set forth in the Hutson plan of companies, it is estimated that 8,112 firemen would be needed.\* On this basis, present budget allowance of firemen and those on roster would be ample, but there would be no shocking displacement of men. There would, however, be a considerable curtailment of officers.

## UNIFORMED MEMBERS ON DETAILS

At the time of the Report there were 333 men on full duty; 209 on limited service; 164 on light duty, totaling 706. The Report indicates that of the full-duty firemen on detail, 225 can be recaptured over a period of time for fire duty, plus the equivalent of 60 on theater duty. The services of 75 limited-service men as well as 55 light-duty men can be

dispensed with.

To some appreciable extent, the shortage of uniformed men for fire duty can be corrected by the gradual canceling out of special details.

\*ED. NOTE: Exclusive of Marine; slight change from 8,182 in published Report is made here on the basis of Hutson computations in Appendix to Section 1, p. 860.



## Office of Operations

We do not believe the Assistant to the Chief arrangement, which seems somewhat improvised, is promotive of the most effective operations. It should be done away with. With the interposition of a Borough command, there is a piling up of too many layers of supervision. Five levels of command should suffice, and one level dispensed with, namely, the Borough Commander.

In lieu of the Assistants to the Chief and the Brooklyn-Queens Borough Commanders, there should be a Deputy Chief in Charge of Operations, of equivalent rank to the present Assistants to the Chief.

The present system of an august Board of Inquiry on apparatus accidents should be discontinued. These hearings can be held by the Deputy Chief in charge of accident prevention.

It is suggested that the staff assistant provided in the proposed organization be responsible for the analysis of fire reports and the supervision of field tests, to assist in an effective control over operations. No overt move has been made in this direction since the Citizens Budget Commission emphasized in its report the need for establishing more effective control over operations.

## Division, Battalions, and Companies

Analyses showing ratios of officers to rank and file were made, and facts bearing on the charge that there are "too many brass hats" were found. There is an officer to every 4.5 or 4.6 men. In 1929 there was an officer to every 5.3 men. Accordingly, a suggestion, but not outright recommendation, is made for reduction in deputy chief strength.

Changes made in the composition of land divisions as an outcome of the 1946 report by a committee of ranking Fire Department officers and the National Board of Fire Underwriters were looked into. From a management and organization standpoint, it is difficult to justify the re-establishment of the Second Division.

The required quota of 181 chiefs for battalion service is not sharply out of line with expectations.

On the face of things, the increase of 146 in lieutenants since June 28, 1951 (175 promoted to lieutenant less 29 actual vacancies) appears unwarranted.

There is a need in the companies for standardization of records, filing, and office procedures.

## Marine Division

There are ten marine companies. Wages and salaries of the division are over \$2,000,000 per year. The Marine Division is organized into one battalion and ten companies, nine of which are active, plus a maintenance and service unit. Its fleet consists of nine fire boats and a tender, in addition to maintenance and repair facilities.

There appears to be an undue overlay of supervision. One Deputy Chief should be able to supervise the Marine Division, with a saving of \$27,000 per year.

Marine Company No. 66\* (foot of Grand Street and East River) has no boat and will have none for some time. The house should be shut down completely, the remaining men reassigned,

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\*ED. NOTE: The Burke Report on the Marine Division (Section 5) recommends the abandonment of Company No. 87, at 135th St. and the Harlem River. The Burke recommendation is favored by the Mayor's Committee.



and the battalion headquarters transferred elsewhere.

### Office of Technical Services

The Division of Fire Alarm Telegraph is outstanding for the enthusiasm and interest shown by its personnel. With a uniformed officer in charge of Technical Services, it is proposed that at the appropriate time a civilian chief engineer direct the Division of Fire Alarm Telegraph and that a civilian automotive engineer direct the Division of Repairs and Transportation.

**Division of Fire Alarm Telegraph—**  
—There is one central dispatching station in each Borough.

All offices should be equipped with consoles to centralize the operation control within a limited area, so as to eliminate travel between existing control panels.

There are advantages of decentralized operation of fire alarm communications with centralized control. This desired condition is not obtained with the five-station setup in New York City.

New York City has 11,953 fire alarm street boxes and 1,184 Class C boxes. The chief engineer of the division believes that these are not adequate. The fire alarm boxes are entirely too varied as to types and method of operation. Standardization in this equipment should be the ultimate goal. The single action box with guard, representing about  $\frac{1}{3}$  of the boxes installed, is the most desirable type.

The construction, extension, and improvement of the extensive alarm plant runs into money. By the end of 1957 the Fire Alarm Telegraph plant may have cost in the neighborhood of \$15,500,000. The division requires 250

civilian and 94 uniformed personnel with salaries and wages estimated at \$1,300,000. The division chronically feels it is short-handed.

The basic design of the fire alarm system has been handed down through the years with very little advancement made in its equipment. Four developments outside of the traditional fire-alarm communication system should be studied for possible new or increased application in New York City: (1) fire detecting devices; (2) printing telegraph on alarm circuits; (3) two-way radio; and (4) the telephone.

There are great advantages to extensive two-way radio, but it is urged that the high cost of installation, plus operation, maintenance, and supervision, which would probably run over \$100,000 yearly, requires resourceful rather than timid use. Radio should not become just another interesting gadget.

In this division, maintenance should be definitely set up as a separate unit and divorced from operations.

**Alarm Assignment and Planning Division**  
—It is incorrect to say—as it has been said—that the assignment of units to respond to alarms has not been revised for a long time. Revision of the basic assignment card, which was fixed in 1939, is taking place. Response on the third, fourth, and fifth alarms has been reduced, and the relocation of companies greatly simplified. The Department has openly stated its qualified acceptance of the “hop, skip, and jump” method of response. The trouble is that the revision is going on at a snail’s pace.

Aside from the assignment card development, the planning efforts of the division are miniscule. The consultant cannot report that the deficiency in planning reported by the Citizens



Budget Commission has been corrected. There is, however, an awareness of the need. The consultant does not favor a large centralized planning and research staff—planning should be done as a part of the particular activity to which the planning relates.

### **Division of Repairs and Transportation**

—This is housed in a recently constructed \$2,000,000 building in Queens. Salaries and wages aggregate \$550,000 a year, while another \$230,000 is spent annually on materials, parts, and outside contracted repairs.

The analysis of this division was eliminated from the specifications for this study because of a report recently issued by the Division of Analysis, Bureau of the Budget. However, some supplementary work should be done:

(1) Information, not now available, of the cost of repairs of specific pieces of apparatus should be compiled.

(2) The recommendations of the report of the Division of Analysis with respect to a job cost ticket system and scheduling should be installed.

(3) The clerical procedures of the Division of Transportation and Repairs should be reviewed for possible simplification.

(4) An independent viewpoint should be obtained on recommendations in the Report by the Division of Analysis with respect to the handling of preventative maintenance by the field repair crews, with respect to the wisdom of sending major re-

pair jobs to outside contractors, and with respect to the appointment of an automotive engineer to head the Division of Repairs and Transportation.

(5) Additional information should be provided with respect to the physical facilities of the Division of Repairs and Transportation and how they might be improved, with respect to the distribution of functions of the some 140 employees of the central repair shop, with respect to costs of operating the maintenance shop by wages and materials, and of work being done there.

**Fire College**—This covers briefly material presented by Chief J. W. Just, in another Report to the Mayor's Committee (p. 000).

**Medical Division**—There is one medical officer in charge, plus 11 medical officers, all part of the Uniformed Force. Additionally, there are 51 firemen aides. Cost of the above is approximately \$300,000 a year.

The guardian angel of the Ambulance Service has been the Second Deputy Fire Commissioner. In all conscience that cannot continue much longer. From an organization viewpoint, the responsibility should be unequivocally assumed by the Medical Division. A similar supervisory responsibility should be assumed with respect to the Oxygen Therapy Unit.

The men in the hospital detail are somewhat hazy as to whom they should report.

## **CONCLUSIONS**

It is obvious that large sums of money will have to be spent to rehabilitate the Fire Department. Hence it is almost a contradiction of terms to speak of savings; yet such savings are feasible, and in substantial amount.

Savings to be obtained are of various kinds. There are the savings everyone knows about, but which require changes in the law, or which may disturb vested interests, so that little is done about them. These savings are again repeated



in the present Report, but vigorous action thereon is expected from the present Commissioner. There are savings by mutual accommodation; one unit giving up an operation that another may be able to handle more readily or economically. There are savings to be derived by eliminating units and positions which have been carried over from the past and are no longer needed; by dropping capital improvements for which less costly but no less

acceptable substitutions can be found; by improved supervision and the disclosure of errors in judgment; by catching incipient practices, which, if permitted to grow, would substantially add to costs; and by increased mechanization.

Not all recommendations can be evaluated in terms of immediate dollar savings, but there are enough that can, so as to constitute an opportunity for annual savings in operation of between \$1,350,000 and \$1,650,000.

## CHECKLIST OF RECOMMENDATIONS

(1) The Fire Commissioner should be responsible for the policies and conduct of the Fire Department in its entirety.

(2) Only two executives should report directly to the Fire Commissioner, namely, the Chief of Department and the First Deputy Commissioner in charge of Administration.

(3) The Chief of Department should have direct responsibility over Fire Protection and Fire Extinguishment, including Fire Investigation, Fire Prevention and Combustibles, and the inspection of Licensed Places of Public Assembly, all supervised in detail by the Fire Marshal.

(4) The Chief of Department should direct the activities of the Bureau of Fire Extinguishment, with one deputy in charge of an Office of Operation for the line direction of the Uniformed Force, and another in charge of an Office of Technical Services.

(5) The First Deputy Fire Commissioner for Administration should supervise Finance and Supply, Personnel and Labor Relations, the Legal Division, Public Relations, and Building Maintenance.

(6) The Division of Finance and Supply should be developed into a full-fledged control division.

(7) Public Relations, under the Secretary of the Department, should in-

clude adequate public education in fire prevention.

(8) A Personnel Relations Section should be set up.

(9) The posts of Second and Third Deputy Fire Commissioner should be eliminated, at an estimated annual saving of \$70,000.

(10) As many as possible of the special boards and committees should be abolished.

(11) A Brooklyn headquarters, estimated to cost \$1,600,000, should be dropped from the capital budget; increased study should be given to urgently required Manhattan headquarters.

(12) The Bureau of Administration should be, as far as possible, civilian staffed.

(13) The augmented Division of Finance should comprise the present sections of Payroll, Pensions and Insurance, Requisition and Supply, and the temporary Brooklyn Unit, from existing sections of which the operating and capital budgetary function will be separately set up. To Finance and Supply should be assigned a Machine Accounting and Control Unit and a centralized Statistical Unit, and the Cashiering Section now located in the Division of Fire Prevention and Combustibles. There should also be an Analytical Unit and a small Administrative Services Unit.



(14) One executive in the Division of Finance and Supply should be responsible on a full-time basis for the Department's operating and capital budget.

(15) Budgetary practice should include the analysis of specific large items of expense, the establishment of standards, and the full allocation of division and unit costs.

(16) The Finance and Supply Division should independently assess the merit and relative ranking of proposals for capital improvements submitted by the divisions and, where appropriate, obtain an outside viewpoint.

(17) The requirement for new fire houses should be re-assessed, and standard designs and specifications established.

(18) Recommendations made on the Payroll, Pension and Insurance, and Requisition and Supply Sections of Finance and Supply would save the time of one clerk.

(19) Personnel activities of Finance and Supply, particularly relating to Pensions and Insurance, should be transferred to the newly proposed Division of Personnel Relations, and custody and accounting for miscellaneous funds, now handled in the Office of the Chief of Department, should be turned over to Finance and Supply.

(20) Recommendations of the Division of Analysis with respect to the administration of Exempt Firemen's Benevolent Funds, estimated to save \$80,000 a year, should be vigorously prosecuted.

(21) Recommendations of the Division of Analysis re payments for the benefit of the Volunteer Firemen's Home, estimated to save \$84,000 a year, should be vigorously prosecuted.

(22) The Brooklyn Unit of Finance and Supply, incurring payroll costs of over \$100,000 in two years, should be disbanded.

(23) The Machine Accounting Unit proposed by the Division of Analysis should be placed in the Division of Finance and Supply.

(24) Predicated on mechanization, the Cashier's Unit of the Division of Fire Prevention and Combustibles should be transferred to Finance and Supply.

(25) A central Statistical Unit should be established in Finance and Supply with an estimated net saving of nine clerks.

(26) The Analytical Unit should be answerable to Finance and Supply, and its staff should be reduced to two trained civilian industrial engineers.

(27) An Administrative Services Unit should be constituted, answerable to Finance and Supply, comprising the Mail Unit, Printing Division, and Cleaners. Six full-duty firemen in the Printing Division, one in the Mail Unit, and four full-duty firemen cleaners should be replaced by men on limited service.

(28) Foreseeable aggregate net savings from a Finance and Supply Division are estimated at \$285,000.

(29) Civilians could suitably take the places of the five full-duty acting lieutenants, all lawyers, comprising the Legal Section. (A moderate increase in costs would result.)

(30) A Personnel Relations Division should be established in the Bureau of Administration, headed by an experienced personnel relations executive.

(31) The Personnel Relations Division should have jurisdiction over central personnel files and employees' records of men on leave for military service or education or on special assignments.

(32) The Personnel Director should assist in the application of job evaluation and salary standardization, provide suitable training facilities for jobs other than those bearing upon fire-fighting, and prepare an employee's handbook.

(33) A manpower policy should be formulated, including compulsory retirement of all employees at age 63, a defensible arrangement of hours of work, and a sound policy on off-the-job employment.



(34) All hearings of employees charged with infractions of the Rules and Regulations should be conducted by the First Deputy Fire Commissioner, with fixed imposition of penalties.

(35) The Public Relations Section should include the publication "W.N.Y.F.,"\* the press desk on the Bureau of Fire Alarm Telegraph, and other appropriate operations.

(36) There should be created within the Public Relations Section a unit for public education in fire prevention, headed by a trained executive in fire prevention activities.\*\*

(37) An advisory committee on a campaign of fire prevention should be set up.

(38) Building Maintenance should be more closely supervised, and a property inspection procedure instituted to form the basis of a preventive maintenance program.

(39) The various recommendations offered affecting the Bureau of Administration, over and above those hitherto suggested for the Division of Finance and Supply, should produce foreseeable net savings of \$35,000 a year.

(40) All fire prevention and fire protection activities should be under the sole supervision of the Fire Marshal, answerable to the Chief of Department, in a Bureau of Fire Protection comprising a Division of Fire Investigation, Division of Fire Prevention and Combustibles, and Division of Licensed Places of Public Assembly.

(41) The Division of Fire Investigation should investigate all serious fires, those requiring multiple alarms, those which involve fatalities, or those reported as of suspicious or of incendiary origin. (Such fires are unlikely to exceed 3½ percent of all building fires.)

(42) The Division of Fire Investigation should investigate all ordinary fires affecting asylums, homes, churches,

hospitals, public buildings, private and public schools, department stores, theaters, lumber, coal yards, piers and wharves, vessels and ships, and roof fires, boiler and furnace room fires, cellar fires, fires in dumbwaiters, hallways and corridors, storerooms, stores, vacant floors and apartments and business fires. (In 1950, these types of fires were somewhat under 40 percent of the total ordinary fires.)

(43) All other ordinary fires (about 60 percent of the total) should be investigated and reported upon finally by the battalion chief, the Division of Fire Investigation to reserve the right to select any cases for further investigation.

(44) The Brooklyn Office of the Division of Fire Investigation should be eliminated.

(45) Any tendency to use the Division of Fire Investigation as a departmental security agency should be discouraged.

(46) An adequate staff for the Division of Fire Investigation would permit a foreseeable annual saving of approximately \$100,000.

(47) The Chief of Department should be actively responsible for the performance of the Division of Fire Prevention and Combustibles, with the Chief Fire Marshal answerable to him. (Paragraphs 48-61 below refer to this division.)

(48) The Brooklyn and Manhattan offices of the Division should be merged.

(49) The Division badly requires a simplification of its tasks, necessary projects being the modernization of the provisions of the Administrative Code, affecting Fire Prevention and Combustibles, and common-sense changes in the Division's own regulations.

(50) Clerical procedures of the Division should be simplified partly by mechanical processing, and partly by merging existing clerical facilities and functions.

(51) Inspections should be more completely consolidated.

(52) The proposed Machine Accounting and Control Unit, Cashier's Section,

\*ED. NOTE: Corrected from reference in Report to "WNYC," which is the City's Broadcasting Station.

\*\*ED. NOTE: Duplicated in original Report with No. 7, above.



miscellaneous statistical compilations, and public education in fire prevention should be lodged in more favorably situated units.

(53) One inspector should be placed in over-all charge of violation orders, to clear-up old violation cases and to turn over to the Legal Section those on which he cannot obtain action.

(54) Examining should be consolidated, with a supervising examiner in charge.

(55) The various small miscellaneous activities of the Division, largely unsupervised, should be grouped under one head.

(56) The proposed technical aide to the Chief Fire Marshal should program inspectional activities six months to a year ahead.

(57) If supervision is clarified, tasks simplified, control tightened, facilities and functions merged, mechanical operations installed, and activities planned, the Division can function satisfactorily with its present complement of civilian employees. The Report projects a foreseeable annual savings of \$700,000. If the elimination of light-duty men is disregarded, estimated annual savings of \$400,000 are forecast.

(58) Neither time or money spent on company building inspections should be cut down.

(59) Wherever feasible, one fireman in a company should be delegated for company building inspection on a full-time basis; further steps should be taken to even out building inspection work loads; the target or category system of inspection, rather than block-by-block inspection, is favored; complete information concerning structural conditions should be entered on readily available Field Record Cards.

(60) Closer liaison should be maintained between the Division and company building inspection.

(61) Fire prevention activity by an entire company in its district, recommended by the Citizens Budget Commission, should be tried out experimentally in certain residential areas.

(62) The Brooklyn Office of the Division of Licensed Places of Public Assembly, with the concurrent endorsement of the present consultant, has been closed.

(63) Wherever possible, limited-service men should replace 11 full-duty lieutenant inspectors of the Division of Licensed Places of Public Assembly, and 20 full-duty firemen inspectors, and civilians should replace most of the 9 uniformed clerical help, affording estimated annual savings of \$20,000.

(64) Responsibility for fire safety in theaters should be borne by theater owners and operators, the Fire Department retaining its present supervisory inspection. By so doing, an additional 150,000 man-hours would be available for fire duty, of an equivalent value to the City of \$300,000.

(65) The Chief of Department should direct the Bureau of Fire Extinguishment, assisted by a Deputy Chief in charge of the Office of Operations and a Deputy Chief in charge of the Office of Technical Services.

(66) The post of Chief of Department should be given the high professional status it deserves.

(67) Required departmental manpower quotas should be objectively reviewed by the Chief of Department.

(68) The assignment of members of the Uniformed Force, whether on full duty, limited service or on light duty to units other than the Bureau of Extinguishment, should be the responsibility of the Division of Personnel Relations.

(69) The arrangement of five Deputy Chiefs as Assistants to the Chief, and the four Brooklyn-Queens Borough Commanders should be dispensed with, and there should be established an Office of Operations, accomplishing estimated savings of \$60,000 a year.

(70) The Deputy Chief in charge of the Office of Operations should have a staff assistant of commensurate rank to inquire into and work for the reduction of fire apparatus accidents, to supervise the placement of apparatus at fires through the Fire Service Supervising Company No. 1, and to analyze fire re-



ports and supervise field tests, as such bear upon the effective control of fire extinguishment operations.

(71) There appears to be inadequate justification for the re-establishment of the Second Division, Manhattan, and the annual cost thereof estimated at \$45,000 would be justified only by intrinsic fire extinguishing conditions, not apparent to a lay consultant.

(72) There is little apparent need for the present complement of three Deputy Chiefs in the Marine Division. An annual savings of \$27,000 is indicated.

(73) Reports expected of Deputy Chiefs should be simplified.

(74) Present budget allowance and roster of 1,270 lieutenants should be probed from the viewpoints of company-by-company requirements, and conformation to known standards, to account for an apparent surplus of several hundred lieutenants.

(75) Over a period of the last three years, repair and maintenance charges of the Department's nine fire boats and tenders have aggregated \$400,000, giving urgency to an adequate replacement program now under study. The answer can scarcely be the four *Firefighter* type fire boats, each costing around \$1,500,000, proposed in the Department's capital budget.

(76) Marine Co. No. 66 at the foot of Grand Street, Manhattan, with no boat, should be shut down completely, and the battalion headquarters should be transferred elsewhere.

(77) The Division of Fire Alarm Telegraph should be under the direction of a Chief Engineer.

(78) The operations of all stations in the above Division would benefit from console cabinets, concentrating required operating equipment in a small area, remote from the related circuit equipment.

(79) The fire alarm boxes of the Department are entirely too varied as to types and methods of operation, and should ultimately be standardized.

(80) The cost to date of the fire alarm telegraph plant is estimated at

\$10,000,000, with another \$5,000,000 proposed for expenditure. Prior to authorization, these expenditures should be reviewed by independent communications experts.

(81) The central stations in the fire communications system should be flexibly manned, the work load being reasonably predictable. Trained limited-service members of the uniformed forces should be employed as dispatchers.

(82) The maintenance function of the Division of Fire Alarm Telegraph should be separately established under suitable direction.

(83) Radio communication should be vigorously developed.

(84) A more open mind should be exhibited on the employment of the telephone in the fire alarm communication.

(85) It should be the special obligation of the Division of Fire Alarm Telegraph to develop, with the cooperation of the Bureau of Extinguishment and the Public Relations Section, a positive program for the curbing of false alarms.

(86) Methods and materials for revision of alarm assignment cards should be speeded up.

(87) The planning activities of the Alarm Assignment and Planning Division should embrace the location of fire alarm boxes, adequacy of alarm coverage, adequacy of response assignments, continuing studies for the location and relocation of fire houses, and similar studies for the realignment of company fire districts.

(88) The Division of Repairs and Transportation was specifically excluded from the scope of the study. It expends approximately \$800,000 a year and presents an opportunity for sizeable economies.

(89) An automotive engineer should be employed as a technical assistant to the battalion chief now directing the Division of Repairs and Transportation.

(90) The recommendations in the study of J. W. Just,\* looking toward the

\*ED. NOTE: See p. 777.



improvement of the training practices in the New York Fire Department, are endorsed.

(91) Control and supervision of the ambulances and the Oxygen Therapy Unit should be the unequivocal responsibility of the Medical Division.

(92) The hospital detail should be

cut in half, at a saving of \$50,000 a year.

(93) The Medical Division should give attention to the occupational hazards inherent in fire duty, and give greater emphasis to the general health of members by establishing a program of yearly physical examinations, prescribed company calisthenics, etc.

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## SECTION 8

# CAREER AND SALARY FEATURES OF THE FIRE SERVICE

BY

INSTITUTE OF PUBLIC ADMINISTRATION

The Municipal Civil Service Commission acts as personnel agent for the Fire Department. The following serious shortcomings in matters vitally affecting personnel administration in the Fire Department have been found in the course of this study:

(1) Delays in the entire examination system, which have the effect of impairing a merit system.

(2) Carelessness of character investigations of candidates.

(3) Inadequate medical examinations.

(4) Overemphasis on physical examinations.

(5) Inadequate basic qualifications.

The first step in the examining process is the mental test of applicants. Cram questions predominate in these

tests. Many of the questions would be more proper to ask after completion of Fire College training. Tests should be designed to determine intelligence and should place special emphasis on mechanical aptitude.

Those who pass the mental test must then pass a medical examination conducted by the Commission, usually limited to 45 seconds per man. Men who pass are given a second medical examination by five medical officers of the Fire Department. If the five medical officers find a man unfit, the Commission holds the right to overrule the decision. Firm medical standards are essential, and decisions should be resolved in favor of the Department.

Physical examinations consist of a series of competitive tests, such as obstacle race and broad jump. No person should be a fireman unless he qualifies



in a physical examination; those who do not qualify should not be firemen. The competitive element obscures this issue. Physical examinations should be qualifying.

Present character investigations of candidates conducted primarily by the Commission are largely paper routine, with little contact with associates of the candidate. Investigations are not completed prior to admission of the candidate to the service.

Written examinations for promotion are devised by Civil Service examiners with no technical training in fire work. It is impossible to conclude that promotional examinations are actually written without expert assistance from outside the Commission. Report has it that such assistance is given by persons associated with cram schools. The implications are profoundly disturbing.

Co-ordination is wholly lacking between the Commission and the Department regarding promotional examinations. Men have no way of knowing what will be asked, in any general sense. Sudden changes of policy may leave men alarmed, confused. Examinations terminate with elaborately compiled protests over official answers to questions.

The selection and examination of uniformed personnel should be a function of the Fire Department. This function would be conducted by the Personnel Bureau of the Department. The Civil Service Commission should establish safeguards for honesty and examinations for compliance with general rules, and it should advise on examination techniques.

No education requirement for admission is now made, although the majority of men have high school educations, and many have college educations. In view

of the technical nature of fire work, particularly for higher officers, a requirement of high school graduation would appear helpful, with high school equivalency examinations available.

To keep the Department youthful, the maximum age of entrance in the service should be reduced from the present 29 to 26 years. In addition, a mandatory retirement age should be established in view of the nature of fire work. A 63 year mandatory retirement age would affect approximately 2 percent of the force.

Hours of work for firemen are shorter in New York City than in any other city over 500,000 population, averaging 46.9 hours per week, including extra emergency duty; the median length of fire work in other cities is 60 hours. Men work on a variation of the two-platoon system in spite of the fact that additional men were taken into the Department in 1939 to make a three-platoon system possible. A three-platoon system should be installed.

Because men on night tours can sleep in quarters, outside private employment of firemen is widespread, in violation of the City Charter and the rules of the Department. The excuse given is that men are underpaid, yet this practice extends to upper rank personnel whose pay is considerably higher than that of firemen. New York City is paying for a Department which could be on the alert 24 hours a day. It is not getting one.

The disciplinary system of the Department was found to be generally at a standstill. The number of fines and the number of men brought up on charges, compared to the total number of men in the Department, is so small as to surpass all credibility. Stiff penal-



ties are the exception. Discipline rests largely in the hands of company commanders, who can play favorites or cover up flagrant abuse. Central control of discipline should be established immediately.

### Special Conditions of Employment

The number of persons leaving for other employment is some index of the desirability of the work and salaries. In 1950, the industrial rate of persons who quit was 88 times higher than the Fire Department rate. In 1948, 25 men resigned; 1949, 20 men resigned; 1950, 16 men; 1951, 37 men. Tenure is practically absolute—a total of three men were dismissed in four years.

The drawing power of fire work may be measured from the number of applicants who file for examination and the number who wait on a list for appointment. In 1946, 19,343 persons filed; in 1948, 17,928 persons filed. In the 1946 fireman's list, now completed, 15.5 percent refused the job when offered. Many of these who refused stated that they had accepted appointment in the Police Department. When one considers the long wait required between date of filing and final date of appointment, refusals are very few.

The line of duty death rate for firemen is somewhat higher than that for police, is slightly higher than transportation work, and equal to agricultural employment. The New York City Accident Control program reveals that the Fire Department heads fifteen other City departments in frequency of accidents. In severity of accidents, it is eighth in line.

Vacations in the Fire Department are 30 days after one year of service; higher officers receive from 32 to 34 days. Because fires observe no holidays,

holidays cannot be provided. In private employment, office workers receive a two-week vacation plus from nine to twelve holidays. Sick leave is practically unlimited in the Department; in private employment it is definitely limited. Some industries allow from five to ten days per year with pay.

Payroll assessments in the Fire Department are many and some are costly, undoubtedly eating away take-home pay. The total cost of uniforms for a first-year fireman is approximately \$218. It is recommended that the initial cost of uniforms be paid by the City.

Other payroll assessments are a mandatory life insurance policy, house tax, gifts, welfare contributions, health insurance, association dues. It is recommended that the life insurance be nonmandatory. The house tax for bed-making and laundry should be eliminated. Practices regarding gifts, welfare contributions, and payments to the UFA should be reviewed since these assessments have become practically mandatory. Members may not wish to continue them at all or at the same rates.

Uniformed fire personnel, along with police, enjoy special pension advantages. City subsidy of these pensions is greater than that for other groups of City or State employees. Earlier retirement is permitted which drains the City of useful employees and adds to the cost of men and for the City. Where men voluntarily choose 20-year retirement, they select a luxury for which they pay extra. It is recommended that the 20-year retirement privilege be dropped; that retirement be effective after 25 years of service after age 55. City subsidy should be reduced to the former ratio of 55 percent City, 45 percent personal subsidy.



The fire pension systems provide generously for disabilities, incurred either in the line of duty or not in the line of duty. No distinctions are made for degree of disability, and men receiving such pensions often find other gainful employment. Mandatory re-examination of men receiving such pensions is not provided in the administrative code. Code provisions in respect to these matters should be revised.

Disability pensions may be granted for nonservice illnesses regardless of the length of time men are with the Department. The fire service is unique in this respect. To safeguard the Department, the probationary period should be extended to 18 months to allow the medical bureau time to uncover hidden defects which would tend toward very early retirement.

The management of the pay-scale of the Department exhibits tendencies which are destroying promotion for merit. "Spot" raises, that is, raises for individual positions or groups of positions, are granted during the year after the budget is passed. Most of these spot raises are for high ranking positions. The position of deputy chief is now subdivided into five salary groups. The upper ranks are in a good position to plead their case, and raises are granted on grounds that the person is doing a special job. Under such conditions, each position can become "special," and raises become individual, granted on a personal basis. Once a spot raise is granted, it is passed along from year to year, unobserved in the thousands of line items in the executive budget.

## Comparison of Pay Rates

Private employment in New York City generally pays less than work as a first grade fireman. Only highly skilled and highly organized workers such as electricians, plumbers, carpenters receive more pay than firemen. Hours of work are unquestionably longer for firemen. Even though some cities and neighboring communities have higher per capita incomes, and less expense for welfare and other costs, New York City pays its firemen more. This also in spite of the fact that living costs in many other areas are higher. The money difference in pay is not slight, but considerable; New York lieutenants receive \$590 more than lieutenants in the second highest paying large city.

Firemen receive more pay than the average of City government employees. Some of the occupations now paid at lower rates have stiff requirements for entrance, high educational qualifications, and training at the expense of the employee. The percent of salary increase over 1930 levels has been greater for other City employees than for firemen, and salary increases for firemen are often justified on grounds of these percentage increases. This argument is particularly applied when the percent of increase in salary is less than the increase in living costs. However, such reasoning assumes that the past relationship among other City salaries was correct. No grounds for such an assumption can be found. A lack of balance exists among the many different City occupations and can be remedied only by City-wide reclassification.



## A Long-Range Plan for Fire

The Police and Fire Departments have been linked together for many years. First rank men in both Departments receive the same salary. Initial qualifications for entrance in the two forces are practically the same. Pension provisions are almost identical. Both organizations are large, semimilitary, uniformed. In establishing a pay scale it is necessary to consider whether pay scales should continue to be similar, or if different, in what respect.

Differences between the two forces are more fundamental than the above similarities. The basic work of a fireman, requiring knowledge and skill, is with physical objects; the fireman must have mechanical skill. Police work is with people; mechanical skill is of little importance; the ability to deal with people is of major importance. Police and fire training and work are entirely dissimilar.

Methods of work are different. Firemen work as part of a team under direct supervision; patrolmen work alone under more general supervision. Fire lieutenants and police sergeants both occupy primary administrative posts. The fire lieutenant is supervised by a captain or battalion chief, while fighting a fire; the police sergeant is only indirectly supervised. Fire lieutenants now receive more pay than police sergeants. Firemen and officers now may sleep on duty, are able to take outside employment. Police must stay awake on duty, are actively at work for a full tour. Fire work is primarily stand-by duty. Policemen are outdoors all the time, in all weather; firemen are inside during the greater part of

the tour of duty. Fire pensions provide for ordinary disability retirement under 10 years' service; police pensions do not so provide. Fire work is more dangerous, accidents and deaths more frequent.

The responsibility of high administrative officers is different in the two Departments. In fire, work is divided between the uniformed force and a sizeable group of civilians who have major responsibilities. In police, the bulk of work is performed by the uniformed force. The police program varies widely, while the administrators of the fire uniformed force are responsible primarily for fire extinguishment and the fire prevention activities conducted by fire station personnel. Top administrators in the Fire Department have permanent Civil Service status; in the Police Department all above the rank of captain have temporary rank status. While opportunities for pay increases are about equal in the two Departments, in the Police Department the increases are not all in permanent ranks.

The implications of the foregoing are that firemen have an advantage over police, that the two Departments are basically different, that pay scales should differ.

Since the Fire Department employs a number of civilians, it offers few opportunities for useful occupation of young cadets as was recommended for the Police Department. Qualifications for admission to the two Departments would therefore be different as recommended. Firemen's qualifications will relate to mature personnel; cadets' qualifications relate to younger men and women. Firemen's pay, therefore, must be higher than that of cadets and



lower than that of patrolmen, since patrolmen hereafter will be men with three years' experience.

The pay plan\* includes an increment system spread over a number of years, not now provided except on a short-term basis for firemen. Since turnover

is low, each man may be expected to reach the top pay for his rank. Overlapping pay scales make possible a wide pay range in the lowest rank. The number of increments decreases as rank increases since men may not be expected to serve as long in the higher ranks.

A LONG-RANGE PAY PLAN FOR FIRE									
Years of Service									
	0-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18
Chief .....	\$11,000	\$11,500	\$12,000	\$12,500	\$	\$	\$	\$	\$
Assistant Chief .....	10,000								
Deputy Chief in Charge .....	9,000								
Deputy Chief .....	7,600	7,800	8,000	8,200	8,400	8,600			
Chief Medical Officer .....	8,000								
Battalion Chief <sup>a</sup> }									
Medical Officer }	6,600	6,800	7,000	7,200	7,400	7,600	7,800		
Captain <sup>a</sup> .....	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,400	
Lieutenant <sup>a</sup> }									
Pilot <sup>a</sup> }	4,200	4,400	4,600	4,800	5,000	5,200	5,400	5,600	
Fireman <sup>b</sup> .....	3,400	3,600	3,800	4,000	4,200	4,400	4,600	4,800	5,000
Chaplain .....	2,750	2,950	3,250	3,450	3,650	3,850	4,050		

<sup>a</sup> In all promotions the appointee will be raised by at least one increment.

<sup>b</sup> Marine Engineer—four year increment skip from rank of fireman.

SECTION 9

ACTION OF THE MAYOR'S COMMITTEE

Land Companies

(1) In considering the Reports of its consultants and related documents on the controversial issues of the number and distribution of land companies, the Mayor's Committee wishes to emphasize the following stipulations made:

(a) That although the Reports

\* ED. NOTE: IPA has advised that it does not contemplate having the pay for certain ranks outstrip, several years after entrance, the pay of present incumbents of the same ranks, as might be inferred from charts in the published Report. Where, after several years, the pay of new entrants advances beyond existing rates for present members, the latter would receive corresponding increases.

indicate the possibility of a net reduction of 9.5 percent in engine companies and 22 percent in ladder companies, 88 of the remaining engine companies will be two-engine units, and 66 of the engine companies will be provided with extra ladders.

(b) That all companies will be adequately manned, in accordance with accepted standards.

(c) That a program of apparatus and equipment purchase will, over a period of years, assure that all fire houses have sufficient apparatus, equipped as specified in the Report.

(d) That there will be improved plans for the use of off-shift fire forces in an emergency.



(2) In view of the broad technical questions involved and the implications of any decision to the people of the City of New York, and in consideration of any objections which members of the Fire Department may have, we recommend that the Mayor transmit the Hutson Report, together with all related documents prepared by this Committee, to the National Board of Fire Underwriters, New York Office, with an official request that that body review the findings and give its opinion to the City on the protection afforded by the proposed plan, taking into consideration the manning and equipping suggested.\*

(3) With or without approval or rejection by the National Board of Fire Underwriters, the Hutson plan should be subjected to exhaustive review and consideration by those charged with the responsibility for combating fires. However, they should be mindful that any objection that this plan does not afford the protection necessary under theoretically possible, *but thus far not experienced* conditions, can also be raised against the present setup, or in fact against any setup that could within reason be conceived. The plan should also be weighed in the light of the City's present and anticipated financial strain. We believe that the plan at the very least strongly indicates the feasibility of a "hold-the-line" policy with respect to any increase in manpower or equipment from this point on. We are mindful that world conditions may presently preclude any reduction in companies unless maintained on standby basis for use by defense volunteers, but do not believe that this situation should hold up the steps we recommend herein.

(4) Irrespective of other aspects of the Hutson plan, we call for earnest consideration of the recommendation in the Report that a detailed study be made of running cards. Such a study should look toward a rearrangement of the assignment of response of companies to reduce the relocation of companies at times of serious fires; to limit long runs of ladder companies to outlying areas where ladders on pumpers would be sufficient, to assure coverage of all territories by companies acquainted with the streets and buildings in each territory, and to equalize as much as possible the work of companies.

(5) We endorse the principle of use of off-duty men, but do not endorse the suggestion, contained in the Hutson Report, that payment should be made for service on off-duty time, instead of the present practice of allowing additional days off duty.

### Apparatus and Hose

(6) The Steering Committee of the Panel on Equipment considered the Hutson plan, and drew up recommendations (Document No. 110) on a purchase program for land fire-fighting apparatus if the City were to adopt it, also outlining the Panel's findings as to an ideal modernization program based on existing Fire Department companies. We transmit Document No. 110 as an information document to compare apparatus required under the Hutson plan with that which the Fire Department feels is required. However, we do not advance the Fire Department plan as our own alternate recommended program.

(7) The Fire Department should give serious attention to the comments of manufacturers regarding apparatus design as indicated in Document No. 100,

\* See Statement by The National Board of Fire Underwriters on the Hutson Recommendations, p. 815.



and should take measures to assure that it be kept abreast of developments.

(8) We endorse the six recommendations on specifications for the New York City Fire Department given in Document No. 105 by A. C. Hutson. Particular attention is called to the recommendation in the document calling for an outside analysis of the service records of the Department's apparatus, in connection with appropriate departures from the National Fire Protection Association specifications, and to Recommendation No. 6 of the document, calling for a technical review of hose specification.

### **Portable Auxiliary Equipment**

(9) We are mindful of the fact that purchase of auxiliary equipment as recommended by Chief Burke might involve expenditures in the order of magnitude of \$405,000 for present companies (\$340,000 under the Hutson plan of companies). However, we consider it of prime importance that New York City be afforded the modern equipment necessary to insure the highest possible fire protection for life and property, as well as safety for uniformed personnel. However, in view of the highly technical nature of the findings contained in the Report, the Mayor's Committee feels that final decisions regarding specific equipment recommendations should be made by those responsible for the City's fire protection. Accordingly, the Mayor's Committee recommends that the Mayor transmit the Burke Report, together with related documents, to the appropriate Fire Department officials for detailed study.

(10) Particular attention is called to the discussion and resulting recommendations in the Burke Report concerning breathing apparatus, in view of the extremely vital role which

breathing apparatus plays in the safety and effectiveness of fire-fighting teams.

(11) It seems reasonable that at least one unit in each Borough carry either foam powder or foam solution.

### **Marine Division**

(12) It seems obvious to the Committee that certain overage boats now in use must be replaced very soon. However, a thorough study must be made of conditions in New York and of the latest developments in design before a final decision is made as to the "prototype" boat decided upon, especially since our own engineers expressed different views as to the size of boat most appropriate for New York City service. We feel that enough has been done by our engineers to caution the City against committing itself at this time to the large-size boats, and that it should seriously reconsider the project which includes such a large boat in its present capital program, the cost of which might run well above \$1,500,000. It is recommended that a special committee be set up by the City, composed of representatives of the Fire Department, the Comptroller's Office, and the Department of Marine and Aviation, to weigh all the factors and secure recommendations from the leading naval architects and others to arrive at a proper solution to the problem. This special Committee should review specifically the recommendation in the Burke Report having to do with the acquisition by the City of two light draft twin-engine boats, and their location.

(13) Since current practice in the Marine Division has been to operate with nine boats, with one of the present ten companies partially dispersed, very serious consideration should be given to the formal abandoning of the



present berth at the foot of 135th Street with an official reduction of the number of fire companies from ten to nine. *This recommendation is made contingent upon the acquisition of the two light draft twin-engine boats mentioned above.* Moreover, we draw attention to the proviso in the Burke recommendation that with this reduction there be a reserve boat as a stand-by.

(14) Without formally recommending action, we suggest that the City study costs and related factors involved in the Burke recommendations having to do with certain new quarters and repair shops, stockrooms, and storeroom facilities, all of which are concurred in by A. C. Hutson.

(15) With respect to supervision in the Marine Division, we recommend that there should be only one senior officer of the Marine Division, with the rank of Assistant Chief, and three junior officers (battalion chiefs).

### Training ,

(16) We recommend the immediate creation of a division of education and training to be known as "The Fire College" of the Fire Department of the City of New York, with permanent staff, as outlined in the Just Report. We recommend that the Director of the Fire College have the rank of Deputy Chief and report directly to the Chief of Department.

(17) We endorse the recommendation of the Report that a Civil Service promotional examination be held for Director of the Fire College, but recommend that eligibles for this examination be limited to rank of captain and above. We further recommend that an important item in the written part of the examination be a thesis relating to training and research problems, and that the examination also contain an

extensive oral part — both the thesis and oral part to be conducted and evaluated by a panel of outside experts including nonresidents of the City, under the supervision of the Municipal Civil Service Commission.

(18) We endorse the general procedure outlined in the Report for the selection of a qualified teaching staff under Civil Service and the proposed utilization of the facilities of the Teacher Training Course of the U. S. Office of Education, but leave precise details to be worked out with the aid of the Director of the Fire College after his appointment.

(19) We recommend that the pattern given in the Report be used as a basis for the development of the Fire College with specific schools and teaching schedules to make the new program of education and training fully effective.

(20) One of the important functions of the Fire College should be the organization and conduct of research. The purposes of this activity are to provide teaching material and to advance the techniques of the Fire Department. Among matters calling for early attention, we endorse the recommendation that research should be undertaken on the use of fog nozzles, wetting agents, and gas masks, and that proper instruction be developed regarding them; and that the techniques developed elsewhere, such as the use of 1½ in. hose, should be studied and adopted wherever practical.

(21) We endorse in principle the recommendations of the Report with respect to such techniques and procedures as photographing multiple alarm fires for review and analysis in the Fire College, transcribing classroom lectures, encouraging discussions, participation in appropriate organizations and re-



gional conferences, and the like, and recommend that they be given careful consideration by the Director of the Fire College.

(22) Adequate training aids should be provided, such as projectors, charts, operating models, operative sprinkler equipment, automatic fire detection equipment, etc., and a complete firemanic library should be developed at the Fire College, with the technical assistance of the Librarian of the Municipal Reference Library. Selected materials should be provided in the quarters of all companies.

(23) We recommend the development of new instructional guides, manuals, and lectures for classroom instruction and fire ground evolutions, along the lines outlined in the Report, with actual details to be worked out by the Director of the Fire College.

(24) We recognize the need, outlined in the Report, for more adequate quarters for training facilities. While we do not at this time make specific recommendation for undertaking immediately the building of new training quarters, we draw attention to the specific prescriptions in the Report regarding proper training towers, pump operations instruction, classroom space, simulated conditions of smoke and heat, and the like, and suggest that these be given careful and early consideration by the Director of the Fire College.

### Organization and Management

(25) The Mayor's Committee proposes the following plan of organization:

#### *Top Levels of Authority*

The *Fire Commissioner* will be the responsible executive head of the Department, with full power to organize and manage its affairs.

The Commissioner will function through three Deputy Commissioners, as follows:

(a) A *Deputy Commissioner for Operations*, in charge of three operating bureaus: the Bureau of Fire Prevention, the Bureau of Fire Extinguishment, and the Bureau of Fire Investigation.

(b) A *Deputy Commissioner for Administration*, in charge of the Bureau of Administration, under which all service functions are combined.

(c) A *Deputy Commissioner for Hearings*, in charge of hearings, labor relations, and accident prevention.

In addition to the three Deputy Commissioners, the Commissioner will have the assistance of the following special and advisory units which will report directly to him: the Secretary of the Department; the Administrative Analysis Unit; and the 12 departmental Boards and Committees.

#### *Professional Line Operation*

The professional line operations of the Department are brought together under a single Deputy Commissioner for Operations. He will have charge of the three bureaus embracing all line operations, as follows:

(a) *The Bureau of Fire Prevention* — This bureau is divided into three divisions: the Division of Building and Equipment Safeguards; the Division of Combustibles; and the Division of Licensed Places of Public Assembly.

(b) *The Bureau of Fire Extinguishment* — This bureau contains the bulk of the professional uniformed services in the land and marine fire-fighting forces, and its head, titled by present Charter provisions as Chief of Department, will be the traditional "Chief" of New York City's fire-fighters. By Administrative Code provision, as stipulated be-



low, he will be senior officer in command at the scene of the fire.

Reporting directly to the Chief of Department will be the service division for apparatus repair, and the Fire College.

(c) *The Bureau of Fire Investigation*—This bureau will continue as at present to conduct all investigation activities, including investigation as to the cause of suspicious or incendiary fires, false alarms, fires of second or greater alarm, explosions, fires due to criminal carelessness, etc., and will secure evidence and make arrests of arsonists, suspected arsonists, and pyromaniacs.

The Deputy Commissioner for Operations will be assisted by the following staff and service units and divisions reporting directly to him: the *Operational Planning Unit*; the *Medical Division*; the *Fire Alarm Communications Division*; and the *Division of Chaplains*.

#### *Administration*

The proposed *Bureau of Administration*, headed by the Deputy Commissioner for Administration, will be responsible for all "housekeeping" services for the entire Department. It will take over and co-ordinate the following six divisions: *Division of Personnel*; *Division of Finance and Supply*; *Division of Administrative Services*; *Division of Building Maintenance*; the *Law Division*; and the *Statistics Unit*.

#### *Detailed Responsibilities of Units and Divisions*

In the plan of organization here presented, the detailed responsibilities of bureaus, divisions, and units do not depart from the plan as drawn by the Division of Analysis and approved by Judge William R. Bayes. However, the Law Division is placed under the Deputy Commissioner for Administration, rather than directly under the Commis-

sioner. It is believed that this arrangement will produce better results, particularly in the immediate future while the "Rules and Regulations" of the Department are under review and recodification.

(26) The rules and regulations of the Department should be revised in accordance with current practice and the organizational structure recommended above. Responsibility for this revision and for current maintenance of rules and regulations should be entrusted to the Deputy Commissioner for Administration.

(27) The Board of Apparatus should be enlarged to include representatives from the Bureau of the Budget and from the Department of Purchase. The jurisdiction of the Board of Apparatus should be extended to include approval of the condemnation of Fire Department equipment on recommendation by the Apparatus Repair Division.

(28) While we are in favor of important divisional and departmental recommendations made in the Lazarus Report, we adhere to our own previously formulated plan of over-all organization, as outlined in paragraphs 25-27 above.

(29) We endorse the recommendations in the Lazarus Report having to do with the strengthening and realignment of subfunctions of the Bureau of Administration, with special emphasis on making the Division of Finance and Supply a true Comptroller's section. However, in line with our own plan of organization, we do not endorse the placing of the Public Relations Section in the Bureau of Administration, but place it instead directly under the Commissioner, with the Secretary of the Department in charge. Also, we place labor relations and hearings under a



Deputy Commissioner, and thus do not endorse their inclusion in the Bureau of Administration.

(30) The Lazarus Report recommends that a Central Statistical Unit be established in the Fire Department. In this connection, we recognize that extensive mechanization is being installed in the Division of Fire Prevention, and recommend that this equipment be utilized by any statistical unit established.

(31) In view of the Lazarus Report's findings as to shortcomings in the preparation and format of the departmental budget, and in the use of performance standards and budgetary control as management tools, we recommend the development of a departmental performance budget, quite independently of the City's moving ahead on its own over-all budgetary reform as advocated in other studies by the Mayor's Committee\*

(32) We note the Lazarus Report's criticisms of the present six-year capital program, and of the way in which capital budgets are prepared and presented. This, coupled with findings of our other engineers regarding the pending capital project for a new boat in the Marine Division (see paragraph 12 above), leads us to caution the Department against proceeding with any of its large-scale capital projects without thorough review. In this connection, we concur with the consultant's finding that the proposal for a Brooklyn Headquar-

ters be dropped. However, we feel that the consultant's designation of the need for a new Headquarters Office building as "urgent" is subject to further study, since it is not unlikely that more space may become available in the Municipal Building. With respect to both the operating and the capital budget, we emphasize the need for more thorough preparation, by a staff which does more than merely assemble requests; and, with respect to the capital budget, we endorse the recommendation for a more realistic presentation of building programs which can reasonably be met, rather than inclusion, year after year, of large numbers of houses that would take 30 years to complete. In this connection, the Committee urges serious re-examination of the whole fire-house building program in the light of the Hutson Report on fire-house distribution.

(33) Noting the evidence in the Lazarus Report that the Brooklyn Unit of the Division of Finance and Supply is a glaring example of the excessive costs involved in the use of uniformed men for clerical operations in which they are inexperienced, and the apparent lack of need for this unit, we recommend that it be closed.

(34) We endorse the recommendations in the Lazarus Report for a strong Personnel Relations Section. The Lazarus recommendations regarding the establishment of manpower policy—including the establishment of a fixed retirement age of 63, provisions for older and disabled men, and re-examination of the most advantageous arrangement of working hours—deserve serious consideration.

(35) We agree with the desirability of broadening the base of public relations, with a continuous public cam-

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\* Since the adoption of this recommendation, the Committee has dealt comprehensively with the matter of developing a program budget with performance standards for the entire City, and the Director of the Budget has announced that he is proceeding toward this objective. This earlier recommendation of the Committee as to the Fire Department is to be interpreted in the light of the Committee's subsequent action.



paign on fire prevention, although, as previously stated, we recommend the placement of this function directly under the Commissioner. We note with favor the work already undertaken by the Department in this field with the aid of Mr. Lazarus.

(36) We call to the attention of the Department for appropriate action the various subsidiary recommendations made in the Lazarus Report having to do with procedures on payrolls, maintenance, speeding up purchasing processes, etc.

(37) In view of our stand on basic organization, we reject the Lazarus proposals calling for drastic recasting of the whole organizational structure of fire prevention, combining prevention with investigation in a "Bureau of Fire Protection," under the Chief of Department. However, we endorse the consultant's view of the seriousness of the backlog of work and other deficiencies in the Divisions of Fire Prevention and Combustibles, and call the attention of Department officials to remedial suggestions in the Report, with respect to simplification of procedures, tightening of controls, and the like.

(38) We recommend the consolidation of the two present offices of the Division of Fire Investigation, as recommended originally by the Citizens Budget Commission and the Division of Analysis of the Bureau of the Budget, and confirmed by the Lazarus Report. While we agree on the desirability of drastic curtailment of investigation of fires by the Fire Marshal, with greater reliance on routine investigation by the battalion chiefs of ordinary fires, we believe that instead of the criteria set up by the Lazarus Report as to fires to be investigated by the Fire Marshal, the recommendations of the previous studies by

the Citizens Budget Commission and the Analysis Division of the Bureau of the Budget should be followed. The Committee does not share Mr. Lazarus' viewpoint on limiting the powers of the Fire Marshal with respect to security investigations performed for the Fire Commissioner.

(39) We recommend that responsibility for fire safety in theaters should be borne by the theater owners and operators, and not by the Fire Department—which, according to the Lazarus Report, would make about 150,000 additional man-hours per year available for line duty.

(40) We recognize that there are two basic ways in which company building inspection can be carried out: (1) with men separately assigned as company building inspectors; (2) by means of a rotating system utilizing the company members, including possible use of a whole company and its apparatus at a time in selected areas. We feel that the experience and knowledge of the company area should be possessed by each member of a company, and therefore recommend that a rotating system, utilizing company men, be worked out. The possibility of sending an entire company with its apparatus to make house-to-house inspections, which the Lazarus Report indicates is the practice in other cities, should be thoroughly investigated. If it is found to be economical and practical, it should be tried out on an experimental basis in New York City.

(41) We note the observations in the Lazarus Report with respect to uniformed men on details, and recommend that the Department investigate the possibility, suggested by the consultant, of obtaining additional men for active fire duty by proper reassignments of limit-



ed service men and others. However, we recognize that relieving able-bodied firemen from clerical work will in many cases require increases in civilian clerical personnel.

(42) With respect to planning, we note the finding of the Lazarus Report that no appreciable progress has been made in operational planning, and that progress with respect to restudy of alarm assignments is "miniscule." We call for vigorous action by the Fire Department in these areas, and recommend continuing statistical analysis of the type exemplified by the Valinsky Report.

(43) Without offering specific recommendations in the technical field of Fire Alarm and Telegraph, we call for a careful review by the Fire Department of the suggestions made in this connection in the Report. We endorse in principle the recommendation for greater standardization in fire alarm box equipment. The comments made regarding new developments outside the traditional fire alarm communications system should be given careful study. In this connection, we concur with the view in the Lazarus Report that, because of the extremely high cost of installation, operation, maintenance, and supervision of extensive two-way radio facilities, resourceful rather than timid use should be made of such facilities. However, we disagree with the consultant's recommendation that the dispatchers be limited-service firemen. We recommend that the head of the Fire Alarm Division be a properly qualified civilian engineer, that the nucleus of the division's personnel be civilian dispatchers, and that limited-service men should be assigned to the work to the extent that they are required and are available.

(44) We agree with the general find-

ing of the Lazarus Report that there are excessive top layers of supervision in the uniformed command, and recommend the abolition of the Brooklyn-Queens Borough Command. We also recommend reduction of the present number of Deputy Chiefs assigned as Assistant to the Chief of Department, the reduction to be worked out as other organizational changes are made. In this connection, we note the short tours of duty assigned to the Assistants to the Chief, and recommend that their hours be made to conform to the working tours of the remainder of the uniformed force.

(45) Recommendations in the Lazarus Report not specifically covered in the above are passed on for the information of the Department, to be considered in the light of its needs, without specific action by the Mayor's Committee. The Report contains many excellent detailed suggestions on streamlining operations, which should be studied carefully.

(46) We are in general agreement with the findings of the Institute of Public Administration Report on career and salary features of the Fire Department to the effect that personnel administration should be strengthened. However, while we agree that examination and recruitment procedures for new entrants and examinations for promotions should be improved, we are of the opinion that the central Personnel Department of the City should have primary responsibility for the conduct of examinations, maintaining proper liaison with the Fire Department to assure appropriate examination content, and that the responsibility should not be transferred to the Fire Department as recommended in the Report. This is in accord with our recommendations for examination and recruit-



ment procedures for the City as a whole, made in connection with the personnel studies. With respect to pensions and retirements, we depart from the Pension Report and recommend, as part of our general civil service and pay program as set forth in Chapter VI above, that the City pension contribution for firemen be reduced from 75 percent to the standard 50 percent when salary rates are next adjusted so that the change will bring no hardship. We note the Report's recommendation for a return to the full three-platoon system, and pass this along to the Fire Department as a matter for administrative determination. We recognize that such a change cannot be instituted apart from other adjustments in the pay scales for Police and Fire Department entrants, as was emphasized in the testimony presented to the Committee by the line organizations in the public hearings on the police and fire survey Reports.

(47) We have noted the IPA findings that in general the pay of uniformed fire-fighting personnel compares favorably with that of the Police Department and other City employees and uniformed forces in other large cities and in neighboring communities, although we recognize that certain of the comparative tables in the IPA Report are now out of date in regard to the other cities and employments as demonstrated at the public hearings on these Reports. Of course, any future City-wide cost-of-living increases should apply to the fire-fighting forces. We are in agreement with the rationale behind the long-term pay plan proposed. In view of the Committee's recommendations on position classification and pay, City-wide, calling for the creation of a special Classification Unit in the central Personnel Department, we recommend that the findings of this Report be referred to the proposed unit for study.

## STATEMENT BY THE NATIONAL BOARD OF FIRE UNDERWRITERS ON THE HUTSON RECOMMENDATIONS

The National Board  
of  
Fire Underwriters

November 17, 1952

Honorable Vincent R. Impellitteri  
Mayor of the City of New York  
City Hall  
New York 7, N. Y.

Dear Sir:

Pursuant to the request contained in your letter of April 30 that this office review the recommendations of the Hutson Report and advise you whether or not we endorse, object to, or suggest any modification to it, we have carefully reviewed the Report and con-

sidered all of the data submitted with it, with much other information received from the Fire Department and other sources. On-the-ground surveys have been made over a period of weeks, by members of our staff, of all of the areas concerned with the recommendations.

We have concerned ourselves not only with those particular companies specifically mentioned in the Hutson Report but also to the effect which compliance with the recommendations would have upon other and surrounding companies and to the over-all fire protection required without attempting to evaluate the cost of operation or possible savings.



As might be expected, consideration of this problem must be based largely upon experience and judgment, and differences of opinion occur even between well-qualified fire protection engineers. It is understandable, therefore, that we should concur with some of Mr. Hutson's recommendations and disagree, wholly or in part, with others.

Obviously, fire protection is reduced somewhat if a single man or a single company is eliminated. The problem is to determine how many, if any, companies may be discontinued and still have *adequate* protection left in all parts of the city. This adequate protection must include sufficient response to multiple alarm and simultaneous fires as well as to first alarms.

In those instances in which we have concurred with a proposal to discontinue a company, it must be understood that such concurrence is not a recommendation on our part that the company should be discontinued, but merely that we consider that its discontinuance would not reduce protection below that considered necessary. We feel that it is strictly the prerogative of a municipality to determine for itself how many companies economic conditions permit it to maintain.

In some sections companies are more closely grouped than the hazard of the area requires, engine companies being located only a few blocks apart. This is not a proper distribution of companies and does not take full advantage of the acceptable response distances in the area to be covered. Consideration in this Report, however, is based upon existing company locations; were some of the companies to be relocated to better advantage, it is possible that a few additional companies could be discontinued. Since the specific request was

to comment on the Hutson Report as submitted, we have not investigated any possible additional eliminations.

We would comment specifically on Mr. Hutson's recommendations as follows:

(1) We believe that the following companies could safely be discontinued:

*Manhattan —*

Engine Companies 7, 12, 14, 26 and 67  
Ladder Companies 34 and 36

*The Bronx —*

Engine Companies 42, 45, 48 and 71  
Ladder Company 19

Note — We would suggest the relocation of Ladder 51 with Engine 97.

*Queens —*

Engine Company 297  
Ladder Companies 144, 158, 162, 163  
and 164

Note — We would suggest the relocation of Ladder 135 with Engine 319, in which case Ladder 136 might be discontinued.

*Brooklyn —*

Engine Companies 205, 213, 218, 248,  
252, 269, 278 and 326

*Richmond —*

Engine Companies — None  
Ladder Companies 79, 83 and 84

Note — Ladder 83 and 84 to be discontinued only if longer ladders are provided on pumpers as recommended.

All of the above is predicated upon retaining the personnel of the discontinued companies and reassigning them to improve the manning of other companies.

(2) We agree with the recommended relocation of Engine Company 299 in the vicinity of Horace Harding Boulevard and 184th Street, but would prefer that Engine Company 275 be located



in the vicinity of Linden and Merrick Boulevards instead of at Hillside and 183rd Street, as recommended. Also, we would prefer that Engine Company 264 remain in its present location.

(3) We see no point in relocating Engine Company 267 as recommended, and believe it preferable to leave it at its present location.

(4) We agree with this recommendation, which is covered by the Hutson Recommendation No. 1.

(5) We concur.

(6) We concur.

(7) We do not agree with discontinuance of Engine Company 24, but better distribution would be obtained if quarters could be provided sufficiently large to house both it and Ladder 5 near where Ladder 5 is now located.

(8) We concur in the relocation recommended for Engine 234, but if this is done, would suggest the relocation of Engine Company 283 further west in the vicinity of Empire Boulevard and Utica Avenue.

(9) We concur.

(10) We concur, except that we would add Engine 211 under subsection c.

(11) We do not believe that 300- or 400-gallon booster tanks are needed on all 750-gallon pumpers, and would sug-

gest 150- to 200-gallon tanks, except that larger tanks may be needed in rural areas where water distribution systems are weak or lacking. Also we would suggest that the longer ladders recommended to be carried on pumpers need be provided only in areas distant from ladder companies as in some sections of Richmond.

(12) We concur.

(13) We concur.

(14) We concur.

(15) We concur.

(16) We assume that this means companies having only one piece of apparatus, a 750-gallon pumper, and not those having a 1000-gallon pumper and a 750-gallon hose tender. If this is so, we concur.

(17) The suggested manning here is in excess of our standards unless it is based upon the thought that such companies will function as a combined engine and ladder company. This may be suitable in some areas but not in all.

(18) to (26) inclusive. We concur.

We trust that the above will be helpful to you.

Very truly yours,

/s/ L. A. VINCENT  
General Manager



## CHAPTER XIX

# Police

### EDITORIAL NOTE

The studies in the Police Department were undertaken for the Mayor's Committee by the Institute of Public Administration. In recognition of previous studies by the Citizens Budget Commission and the Division of Analysis of the Bureau of the Budget, the present inquiry was directed primarily at the following:

- (1) Structural organization.
- (2) Police relationships with other City departments and with State and Federal governments.
- (3) Influence of the Civil Service administration.
- (4) Decentralized administration in patrol, investigation, and traffic functions; and possible economies from changes in distribution of police precincts and precinct services.
- (5) Utilization of manpower; and present and future police requirements.
- (6) Crime records in police management.
- (7) Career and salary features.
- (8) Traffic administration.

Separate Reports were published on 6, 7, and 8 above, as follows: "Crime Records in Police Management," "Career and Salary Features of the Police and Fire Services," and "Traffic Administration in the New York Police Department." How-



ever, since the summary volume, "The New York Police Survey," digested in Section 1 below, covers these subjects, the three individual Reports mentioned have not been separately digested here. As indicated by the title, the Report on career and salary covers the Fire Department as well. Since the Fire Department material is not covered in the summary volume on the police survey, the portions of the career and salary Report dealing with the Fire Department have been separately digested and appear as Section 8 of Chapter XVIII, on the Fire Department.

Exceptionally close co-operation was received by the survey team from the Police Commissioner and other officers of the Police Department. All of the recommendations developed were submitted to the Department during the conduct of the study, and many have already been put into effect or are in course of installation, as indicated in the Report. In this connection, a series of 40 memoranda were submitted to the Police Commissioner, each relating to a specific management problem. These cover the same ground as the Report, "The New York Police Survey."

In its action, the Mayor's Committee has in general endorsed findings of the Report, suggesting that the salary recommendations, with minor modification, be passed along to the Classification Unit which it has proposed be set up for implementation of City-wide reclassification, with the reservation that the direct responsibility for examination and recruitment remain with the reconstituted Civil Service Commission, albeit with close liaison between the latter and the Police Department.

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## SECTION 1

**SURVEY OF OPERATIONS**

BY

THE INSTITUTE OF PUBLIC ADMINISTRATION

Among all of the great cities of this nation and the world, New York's police defenses stand at or near the top in three respects. Numerical strength of its manpower is currently close to 20,000 men. Cost of operation and maintenance, including salaries, pensions, physical plant, equipment, and supplies, stands at a level far above the nearest competitors. Problems of law enforcement, while by no means unmatched elsewhere for complexity, are on so large a scale as to lift New York into a class by itself.

Because New York's police establishment is so large, its problems are often

held to be unique. This leads naturally to the further conclusion that the usual tests of performance do not apply and that the policies, structure, and experience of other forces both large and small have no bearing upon the methods that must be employed here. However, while large centers and smaller places alike have special situations that require special treatment, they also have so many characteristics in common that police methods originating on the Pacific Coast are easily adapted to the Atlantic Seaboard, and experiments undertaken by small towns may hold significance and value for substantial portions of great cities.

**PERSONNEL CONTROLS**

Since the basic unit of all policing is the policeman, we began our survey with an inquiry into the manner of his selection, promotion, training, and discipline. By far the largest single element in the situation is the Municipal Civil Service Commission. It establishes many of the qualifications for police recruits, examines prospective patrolmen, and exercises a preponderant influence at all

promotional stages up to and including the rank of captain. Its successes or failures in performing these vital functions therefore are controlling factors in the police service.

In its handling of police selection and promotion, the Commission displays some grave weaknesses. They may be summarized as follows:

- (1) It does not assure that the best qualified applicants will be declared eligible for original appointment or for promotion.

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Digest from "The New York Police Survey," by the Institute of Public Administration, July, 1952.



(2) It is preoccupied with the interests of the job seeker at the expense of the interests of the Police Department.

(3) It is excessively slow in processing police recruits.

Local residence requirements under the restrictive terms of the Lyons Law deprive the City of available resources when, in times like the present, young and capable manpower is hard to find.

The minimum age of 20 years is widely suspect because immaturity can be a menace when clothed with police authority. But if police are actively to seek able and ambitious youths with any large degree of success, they must compete with the military arms and with the opportunities offered by industry, commerce, and governmental service at the time when these young prospects become available for regular career employment. In most cases, that is not at the police minimum of 20 years, not at the police average of 26 years, but at 18 or 19 years. To pass up this opportunity for first choice is to wait for the misfits and the rejects to come looking for a job at a much later date.

### **Police Cadets**

Youths of quite extraordinary qualities leave promising careers of many kinds to join our police forces. But not enough of them are impelled by such urgent preferences. If more men of high intelligence and sanguine temperament really are to fill the blue ranks, they must be sought at high school age, and employed for some time at police tasks not requiring law enforcement authority; they must be schooled, guided, transferred, and rigorously screened by special supervisors until they can finally be offered as preferred

candidates for appointment as probationary patrolmen.

No anxiety need arise about the opportunities available for such on-the-job selection and training. In the precinct stations are 626 police assignments as clerks, attendants, stenographers, patrol wagon drivers, and switchboard operators. Headquarters has several hundred more of the same or similar categories.

The pay of police cadets can be established in accord with age, experience, and duties performed, with substantial payroll economies and with pension funds fortified by longer years of service without reducing the age at retirement. But cost is a secondary consideration where the future of the force is concerned.

### **Recruitment and Promotion**

Character investigations, like physical qualifications, are a joint responsibility of the Civil Service Commission and the police force, with the Commission holding the final decision in such matters. It therefore must shoulder most of the blame for official complacency in clearing men with criminal records and disabling physical defects. Undue reliance is placed upon form letter inquiries. Unfavorable replies are not followed up. Criminal records of a wide variety, paternity proceedings, and other objectionable features are waived by the Commission in three-fourths of the cases in which they arise.

Written examinations for patrolmen are little concerned with native intelligence, aptitude for police work, or ability to learn. They emphasize the three R's, local geography and civics, and the rudiments of law enforcement. Why the latter should be included is



difficult to understand, since prior experience is not required and all newly appointed police must attend from 8 to 10 weeks of instruction at the Police Academy. An unfavorable result of the information type of questions on patrolmen's examinations is to force aspiring candidates to enroll in one of the privately conducted cram schools for Civil Service applicants. Urgently recommended on the basis of successful operation in other forces are test batteries for general intelligence, observation, memory selection, and arithmetical reasoning. Despite a widely held belief to the contrary, such tests are not barred by New York State's Constitution or statutes; in fact they are extensively employed with success by the State Civil Service Commission itself.

Medical examinations are conducted under the auspices of the Civil Service Commission on a mass production basis. Average time devoted to each candidate is only 45 seconds, with laboratory tests postponed until just prior to final certification. Police surgeons frequently reject men accepted by the Civil Service Commission; but the Commission, not the Police Department, says the final word on eligibility. The records show acceptance of men impaired by foot injuries, flat feet, overweight by as much as 70 pounds, leg wounds, missing fingers or injured hands, defective hearing, and mental disorders. By negligence and by connivance, both the present and the future value of each complement of recruits is heavily discounted at the outset.

Physical tests are highly specialized and exacting and are scored on a competitive basis. Without reflecting upon the value of strength and agility in police work, the tests now applied invite so much specialized preparation by the

candidates as partially to defeat their purpose. If placed on a qualifying, rather than a competitive basis, much of the undesirable overemphasis would disappear.

The Civil Service Commission makes convulsive efforts to examine great numbers of police recruits in a single, elaborately staged operation. Owing in part to sheer weight of numbers and in part to complacent, time-consuming attitudes by processing agencies, the various physical, character and mental tests require from 14 to 18 months for completion by the examining units. The whole process could be expedited if police recruiting were conducted on a continuous basis, with highly selective tests applied at the very outset.

Continuous recruiting will make panels of qualified aspirants constantly available for final competitive examination on short notice. Police cadres can then be filled from the top of the current eligible list, and both the necessity and the temptation to draw upon the lower portions of stale lists will be avoided.

An alternative approach that has much to commend it would consist of annual examinations held on fixed dates, with mechanical grading of tests and quick certification of lists, thereby reaching the current crop of promising candidates while they are still actively seeking a police appointment. A part of the present delay stems from the large number of aspirants who cannot be processed quickly, but this in turn is directly traceable to the fact that examinations are held at intervals of about four years, which causes a congestion of aspirants.

A useful method of narrowing the field and speeding selection will be to require graduation from high school, or an equivalent education. This simple



rule would bar at the outset those who lack an aptitude for learning the varied subject matters of the policeman's art, while preserving the availability of the young men and women who leave high school from economic necessity.

Promotional examinations lay considerable stress upon police subjects, and properly so. The Police Academy operates refresher courses at which attendance is voluntary. The program could have great value and significance. But not enough effort has gone into organizing the subject matter to the end that it may have enduring value for police who enroll. Too often the lecture hour is devoted to a quiz based upon earlier promotional examinations. Patrolmen, sergeants, and lieutenants are separately scheduled but are likely to be brought together into joint session for common instruction. A great many aspirants for promotion choose to attend the special courses offered by one of the private cram schools. These may provide a desirable competition for the Police Academy's efforts to offer promotional instruction. However, the Police Academy should be the source of police doctrine and the inspiration of professional attitudes.

Gross inadequacies in recruitment are not matters of great concern to the Civil Service Commission because it does not stand or fall according to the quality of the police it selects and promotes. That hazard is assumed solely by the Police Commissioner and his chief aides, who are boxed in by the provisions of the Civil Service law. But selection of the right man for the job in hand should not be conducted at arm's length as is now the case with the Civil Service Commission. So unless the Police Commissioner is given power to establish and apply practical stand-

ards for the selection of police, there can be no large expectation of a steadily mounting competence in the ranks, upon which the largest advances in law enforcement must depend. Conferral of these essential powers can be accomplished without contravening the provisions of the State Constitution and without impairing the essential principles of the merit system.

Promotional procedures for police, like the original selection of patrolmen, should rest with the Police Commissioner. Positive rather than negative approaches, active rather than passive policies, can mark a better ordered system of recruitment and advancement.

To the Municipal Civil Service Commission should be reserved the role of testing and approving the procedures that are adopted by and for the Police Department, with plenary power to suspend the application of standards that do not attain acceptable levels.

The most successful efforts toward building law enforcement bodies of exceptional quality have involved freeing the police administrator from some or all of the unfavorable traditions of Civil Service control. This has been demonstrated in local, state and Federal police alike. It also characterizes all of the forces, large and small, of England and Wales, Ireland and Scotland, including the widely heralded and much admired Metropolitan Police of London, Eire's Civil Guard, the Royal Canadian Mounted Police, famed in the legends of the Northwest, and some of the other leading forces of Canada. One and all they rest upon the same firm foundation of a personnel control that is the abiding responsibility and concern of the chief police administrator.

The new merit system should be extended within the police force. It should



reach to the rank of inspector, as well as to patrolmen, sergeants, lieutenants, and captains, as is now the case. The underlying purpose in giving the Commissioner his present authority to select higher officers from among the whole body of police captains is sound in principle; but in this City its intent is largely thwarted by the fact that 278 officers holding the permanent rank of captain are distributed among more than 100 separate and distinct commands. They do not and cannot all come under the appraising eye of the Commissioner. Hence his executive powers in freely selecting inspectors and deputy inspectors, as well as higher functionaries, are necessarily delegated to those who have a wider acquaintance among the eligibles, thereby setting up numerous patterns of favoritism and bargaining and intrigue that start in the precinct stations, traverse many extraneous fields, and reach clear up to police headquarters.

Thus the Commissioner's essential control will not be diminished—on the contrary, it will be substantially increased—if the new merit system, operating under the administrative audit of the Civil Service Commission, is extended up to and through the rank of inspector. Beyond that point may stand a mere handful of higher officers—about 25 at the present time—which can be made and unmade at will from a general cadre of some 60 or 70 inspectors of permanent rank.

### **The Police Academy**

Hand in hand with an improved merit system should go a complete renovation of the Police Academy.

New York's first police training school dates back a half century or more. For years following its inception it was one of the best of its kind. The

original curriculum for recruits has expanded in many ways. Thirteen schools now comprise the Academy, with a wide variety of specialized and refresher courses for nearly all police arms, services, and ranks. Much of this represents healthy growth and a desirable extension of the sphere of in-service training. However, when viewed from the qualitative angle, some grave defects become apparent, summarized in the oft-repeated judgment of graduates that attendance at the recruit school represents "just a waste of time." This is a shocking commentary by policemen of mature years, several of whom have gone on to receive some of the highest ranks and honors that the Police Department can bestow.

The judgment may be unfair. It may reflect the training program at its worst, without offsetting credits. Nevertheless, it serves to underscore the fact that no matter how much the academy has expanded, and no matter what its achievements in specific fields, a large part of its early momentum is gone. Today it stands in need of a thorough overhaul and a vigorous push towards new and higher goals. The manpower involved both as instructors and trainees is impressive to say the least. It represents an investment that should be carefully conserved, with an unremitting emphasis upon the quality of the instruction and hence of the product.

### **Probation and Discipline**

Although the Police Department largely neglects the probationary period as an essential stage in the process of selection, considerable difficulty would be encountered in doing full justice to many borderline cases within the present narrow confines of the six months' probationary period. Extension to not less than 18 months will prove neces-



sary to the development of a thorough-going procedure. This can be accomplished by simple change in the Civil Service rule.

With the recent disclosures in Brooklyn, many worthy policemen deplore the publicity and contend that the rank and file present no major disciplinary problems; they bitterly resent the broad, hasty, and often unjust conclusions drawn from such scandals. Others stubbornly contend that, even if the problems exist, discipline should carry no penalties, because fines and suspensions bear so heavily upon the offenders' dependents.

In 1928 the charges on which policemen were accorded a departmental trial totaled well over 5,000 in number. The intervening years witnessed an almost uninterrupted decline in such rough indexes of disciplinary action, with the level dropping to only some 600 charges by 1950. Court convictions of police show a slow decline over the years, but dismissals from the service have gone down by 90 percent.

Following are the summary results of the administrative trials of 584 individuals, for the 20 years from 1931 to 1950 inclusive. They represent all of the major cases heard throughout the period, plus others who had lengthy disciplinary records:

	Percent
Charges dismissed .....	11
Reprimand administered .....	31
Fined one days' pay or less .....	37
Fined two or three days' pay.....	12
Fined five days' pay .....	5
Fined 10 to 30 days' pay .....	1
Discharged, resigned or dropped.....	2
Pending, or filed without action.....	1

The relatively small number of individuals involved might be viewed as offering striking evidence that the police

force has had few offenders against good discipline in its ranks, but several factors are at work that operate to hold their number to modest levels.

(1) The penalties imposed are generally so light as to discourage police commanders from bringing formal charges against their men. Many disciplinary breaches are handled within each police command without recourse to the trial procedure, and without any record.

(2) Some police offenders are disposed of by informal means, particularly by transfer to other duty, and on rare occasions by forced retirement.

(3) Very few charges are brought against sergeants and almost none against lieutenants or officers of higher rank, unless and until criminal proceedings are initiated against them by other public agencies.

(4) The same striking absence of charges is to be noted with respect to extortion or other venal offenses. Here again is disturbing evidence of a policy to dispose of such irregularities without drawing public attention to them.

The extraordinary fact is that individual members of the force may be charged repeatedly with absences from duty, improper patrol, an occasional lapse into intoxication while on duty, assaults on citizens, and unlawful use of fire arms, without suffering more than a reprimand or the forfeiture of one to five days' pay. Some offenders who have been found guilty scores of times are still members of the force. Some were promoted despite their bad records.

### Illness and Injury

Illness among members of the uniformed forces each year costs approximately \$3.5 million in lost time. For the year 1950-1951, an average of 14.7 days



was chargeable to illness and injury. This rate is approximately twice as high as prevails in most private industry and it also appears excessive when compared with recent rates for other police forces. Some of the increases are directly traceable to more generous statutory provisions for sick leave. While the more liberal sick-leave provisions are commendable, they require tight controls if abuses are to be avoided.

High illness rates represent undetected malingering and poor supervision. A major part of this problem stems from faulty distribution of police surgeons, inadequate supervision of their work, and failure to establish standards to which surgeons must adhere.

Because of the uneven distribution of police surgeons, most police find themselves residing at points that are inconveniently remote from the district surgeon's office, in fact as far removed as the City's geographical spread permits. No surgeons whatever have offices in Queens and Staten Island. The 23 district surgeons need not be increased in number, since the present ratio of

surgeons to men is entirely adequate. But redistribution is urgently needed. Surgeons' offices should be located in each of the Boroughs, with the ratio of surgeons per Borough bearing a direct relation to the number of police to be served therein. And police surgeons should be required to hold regular office hours. District health centers of the Department of Health, and in some instances the City hospitals, may be able to provide part-time facilities for them.

To avoid future concentration of district surgeons in Boroughs having few police residents, the Civil Service Commission can specify Borough lists for new applicants, with an established quota of surgeons for each Borough, based upon an actual census of police residents. A review of pertinent judicial decisions indicates that such an arrangement will be sustained by the courts.

Evidence of uncontrolled malingering is so common as to demand a far more rigorous treatment than has been accorded thus far. Police surgeons must understand that they are disciplinary officers as well as healers.

## ENFORCEMENT ARMS

Five arms of enforcement are selected here for special consideration. They embrace the three basic activities of uniformed patrol, traffic regulation, and criminal investigation, plus specialized means for dealing with juvenile cases and for responding to emergency calls to assist people threatened with grave danger.

### Patrol Redistributions

Uniformed patrol is the largest single activity of the Police Department. Two-

thirds of the force, or 12,000 men costing over \$50 million annually in personal services, are thus assigned. But because of a multitude of special duties, routine indoor assignments, special details of a more or less temporary nature, an occasionally profligate use of police manpower on clerical and manual tasks, and the unavoidable depletions of rest days and vacations and sick leave, only about one-half of this great reservoir is available for actual duty on the streets of the City. Even this attenuated



force must be distributed among the 3 tours of duty in each 24-hour day.

About one-sixth of the uniformed patrol force is motorized and served by two-way radio. The balance of the available patrol strength covers foot beats, operates precinct stations, and serves on numerous special assignments.

Our survey reviewed a score of factors entering into the distribution of patrol units—area, population, crimes, delinquency, accidents, school crossings, licensed premises, the frequency of public demands for police service; these and related matters were analyzed closely. Out of that analysis came the inescapable conclusion that New York's 85 precinct commands and 84 station houses are more numerous than necessary, and that they can be reduced to 70 precincts, each with its station. In addition to costs of operating and maintaining the physical plant of 14 unneeded stations, a total of 180 police of varying ranks can be released from administrative, records, communications, janitorial, and housekeeping duties.

An earnest effort must be made to assure closer supervision of patrols than is possible under existing plans for disposing manpower. Lieutenants are reduced to the status of precinct records clerks; sergeants while away their time at precinct switchboards, on precinct detail, or in headquarters bureaus and divisions. The number of sergeants currently assigned to patrol supervision is less than 10 percent of the number of separate and distinct foot patrol and motor patrol units—far below requirements. Closing the 14 precinct stations will go far toward lowering this to a ratio of 1 sergeant to each 8 patrol units, but transfer of 70 of the sergeants now

performing various nonenforcement duties also will prove necessary to bring the ratio down to a working ratio of 1 sergeant for each 6 or 7 patrol units.

The Department's report of Part I offenses for the last eight months of 1951 indicates that nearly 78 percent of these crimes were larcenies (50.2 percent) and burglaries (27.6 percent). A large proportion of these offenses come first to the attention of the beat patrolman whose initial inquiries commonly represent all of the pertinent information that is ever sought in the case. Screening of such reports would quickly establish whether a detective assignment might be required. This approach rather than the automatic referral of virtually all such crimes to detectives would contribute more success in investigations.

For years New York has operated its radio motor patrol cars with a two-man uniformed crew. But on November 1, 1950, an experiment was begun involving the operation of 85 cars in 21 patrol precincts and on Grand Central Parkway with one-man crews around the clock. Further evaluation of the long-term data now available is in order. It is possible that one-man crews may be appropriate on one or two duty tours within a given sector even though such operation is not feasible on all tours. Extension of one-man patrol car crews is urged on a selective basis employing the same criteria used in instituting the experiment 18 months ago. Police are agreed that foot patrols yield large returns in suppressing street disorders, petty larcenies, and simple burglaries. Such added resources can be provided if patrol car crews are adjusted to fit requirements.

The areas in which foot patrols may be advantageously extended are not



necessarily in the precincts where car crews are reduced. Thus far there has been insufficient recognition of this basic fact, with the result that men taken off motor patrol duty remain as members of the same command.

The Midtown Squad appears to be unique as a device for providing a select corps of foot patrolmen. It operates wholly within a narrow sliver of Manhattan from 31st Street to 65th Street and from Lexington Avenue to the Avenue of the Americas. But the hours of duty run only from 9:00 AM to 6:00 PM and no Sunday assignments are made. The area includes parts of six precincts and four inspection divisions. These withdraw their foot patrol components from the district while the midtown squad is on duty, but reassume their usual responsibilities for patrol coverage at all other times. Thus command and responsibility shift back and forth by the clock.

Moreover, the Squad's objectives are not too clear. One of the stated purposes is to aid the traveling public at major terminals, but the area of the squad's operations does not include nearby Pennsylvania Station or the new bus terminal. Visitors to the City are also declared to be a prime concern; but adjacent Times Square and the theater district are not included; nor are the critical night hours given any attention.

The Squad's district significantly consists of a segment of Park, Madison, and Fifth Avenues. If the undeclared purpose is to provide these luxury areas with an especially selected foot patrol force, the advantages to be derived fall far short of offsetting the structural defects that have been introduced into the chain of command.

Sound principles of organization dictate that the Squad shall be disestab-

lished as a separate command in the headquarters division, and that its 110 officers and men shall be distributed among the 6 precinct commands with which the squad now operates.

### **Traffic Law Enforcement**

Traffic fatalities are declining in New York. The peak year was 1929, when 1,350 persons lost their lives on the streets of this City. In 1951 the toll was less than half as great, with a total of 559 traffic deaths recorded. Although concentrations of fatalities and personal injuries occur in Manhattan and Brooklyn, City-wide rates for accidents are generally lower than those prevailing in other large centers.

By contrast, traffic moves but little faster than it did in the fabled days of horse and buggy, despite many highway improvements and an increasing effort to expedite traffic flow. New regulations and added facilities provide accommodations for more vehicles, so that traffic continues to move sluggishly near the saturation point. Suburban areas meanwhile drain the City's resources because newer communities are so much more adaptable to the motor age.

Recent years have brought a marked increase in police efforts to deal with the traffic problem. At the present time, police are initiating over 900,000 traffic prosecutions per annum, more than half of them for parking violations. Over \$4 million is exacted in traffic fines. The trend in summonses for parking and moving violations is clearly upward. Yet cases for moving violations are not keeping pace with car registrations and traffic growth. This could be due to the effects of congestion; either a slowdown negates speed violations, or police attention is diverted from efforts to hold down the speed of traffic to efforts toward speeding it up.



The Traffic Division comprises some 2,400 men, or about 13 percent of the total personnel of the Police Department. Its jurisdiction is City-wide, but Manhattan alone absorbs more than one-half of its entire manpower, leaving but a thin coverage for the rest of the City. The Traffic Division operates along specialized functional lines. No close official contact prevails between the patrol precinct or division and the traffic precinct or district covering the same area, such as could result in a co-ordinated attack on major traffic and parking problems not reached by traffic division personnel. But street traffic in relation to other demands on the police now has become far too large to be effectively handled as a specialty practiced by limited numbers. Basic police methods of dealing with traffic problems are well developed and all uniformed commands must apply them equally.

At the present time the entire force feels the impact of heavy traffic duties. Within each patrol precinct traffic work has become the most frequent and at times the most important function, especially during daylight and early evening hours. Hence a major realignment of the Police Department must be effected in order to add to the total traffic effort. The aim is to increase the police capacity to deal with traffic without increasing the total manpower and equipment. This involves emphasizing traffic work and giving it more prominence and attention by the field forces operating under unified commands. Members of these commands will be neither "traffic men" nor "patrol men"; they will all be members of a general field force with a broad—not a narrow—responsibility for law enforcement.

The proposed general field force should give the bulk of its time to traffic

during daylight and early evening hours throughout most sections of the City. Calibration of the speedometers on all field force vehicles will permit a sharp increase of police effectiveness in controlling moving violations. At night, primary attention will shift to normal patrol, investigation and crime prevention functions.

Co-ordination can be simplified by clear-cut channels of communication and command. Through a headquarters staff personnel working under the immediate supervision of the Chief of Traffic, penetrating studies of traffic conditions and enforcement can be made for all sections of the City. These can then be translated into terms of programs for the general field commands in collaboration with the staff aides to the Chief Inspector. When such programs are ready for introduction, the respective staffs of the Chief Inspector and the Chief of Traffic acting jointly can indoctrinate division inspectors, precinct captains, and their immediate subordinates, thereby assuring effective execution of headquarters directives.

In addition to the general traffic administration and planning functions, it will be advantageous to maintain a safety bureau, a permits section, a supervisory staff, and liaison men directly under the Chief of Traffic. The Motorcycle District and the Mounted District can be effectively operated apart from the general field forces of the Department. The independent status of these two units should therefore be preserved. They will operate directly through traffic headquarters. They will not become a part of the general field force at division or precinct levels, and the geographic boundaries of their districts and precincts need not be co-



extensive with those of the proposed divisions.

It is recommended that the Bridge District and Bridge Traffic Precincts L and N be abolished and such services as are not already being performed by the adjoining precincts be divided among them. This will place responsibility for co-ordinating the flow of traffic between adjoining Boroughs on the precincts best able to discharge it. All the overhead of the three commands (the Bridge District and Precincts L and N) and a substantial number of the patrolmen now assigned to bridges can be transferred to general enforcement duties.

Parks and other general police responsibilities now included in the Grand Central Parkway Precinct may be assigned to the patrol precincts which are readily accessible to them. These are set up for around-the-clock operations. Unified direction of traffic on the parkway proper may best be provided by the motorcycle command of the Traffic Division.

### **Criminal Investigations**

Successful criminal investigation rests upon four basic procedures: a meticulous recording and indexing of crimes committed and of police action taken; the development of numerous sources of confidential information; identification of persons and of traces; and efficient means for selecting and supervising detectives.

New York was one of the leaders in adopting modern methods of identifying criminals and for many years its files were largest in the nation. While laboratory techniques in the examination of traces were slow to find acceptance here, the vigor with which staff and equipment were assembled during

the 1930's gave promise of an expanding acceptance of modern aids to detection.

The number of laboratory examinations has mounted quite steadily, but the demand for field search for traces and for identification of traces in the laboratory is still at a moderate level. The laboratory is in no sense responsible for this lag, which appears to be due rather to the inadequate means for controlling both investigations and detectives.

When the Police Department partially revised its crime accounting methods late in 1950, the proportion of cases cleared by arrest suffered a severe decline. Further changes effected in January, 1952, brought another sharp drop in clearances for burglaries and larcenies. These changes marked the end of an era when the totals of reported crimes could be rigged and the levels of successful investigations artificially raised, and an end to the frequent recourse to the convenient and unhazardous process of "canning" criminal complaints. "Detective Can" became a popular and legendary figure in some commands, because he was the ultimate custodian of so many unsolved crime reports that left no trace.

Each year these evasive tactics became the basis for new claims of superiority, not only for the Police Department as a whole but more importantly for the detectives who were fattening their averages and assuring a continuance of their extra compensation, through the device of suppressed reports. The new and verified record now shows that New York has a clearance level that is 50 percent below the national averages for the numerous crimes against property (robberies, burglaries, auto thefts, and other larcenies), total-



ing 60 to 70,000 per annum in this City alone. Such comparisons are unpalatable, but the important thing is that they have been unflinchingly faced by the present administration at police headquarters.

The Detective Division is of impressive proportions—almost 2,200 men who are distributed among more than 80 units representing 4 superimposed echelons of command, each with its own subordinate hierarchy that leaves the precinct detective at the bottom of a considerable heap of superiors. The amount of lateral co-ordination involved would produce utter confusion were it not for the convenient rule that prime responsibility at the scene of an investigation that has not yet resulted in an arrest shifts from patrol or other components to the Detective Division as soon as a detective of any rank arrives on the scene. However, this reduces the abiding value of the precinct patrolman, who may be well informed concerning the victims, witnesses, and suspects in a case, and who is usually first at the scene through response to radio dispatch.

With a highly centralized corps of detectives reaching down from headquarters through Borough and district commands to the 80-odd precinct squads, extensive systems of status reporting must be adopted. The burden of paper work is considerable and complaints from precinct squads are numerous. But the large numbers of men involved, the intermediate echelons of supervision that are imposed, and the pressing need for keeping a remote headquarters informed by summarized reports, all point to a continuing need for these current devices, so long as the present scheme of detective organization prevails.

The necessarily wide dispersal of most detectives requires that administration of inquiries shall be thoroughly decentralized except for those offenses for which skilled headquarters and Borough squads of specialists are available. This will involve giving to the divisional inspectors and precinct commanders the immediate control of detective squads now operating independently from the precinct stations. Transfer of the district and precinct detectives to divisional and precinct units charged with general enforcement of criminal laws and traffic violations will by no means destroy nor even dissipate the proved reserves of detective skill. Headquarters and Borough offices of the Detective Division will remain intact under the proposal, but the need for shifting command responsibility for proceeding will cease for the overwhelming majority of criminal investigations.

Selection of detectives will be improved by bringing the initial action firmly into the hands of local commands where evidences of detectives aptitude are first displayed. Since the usual forms of competitive tests fail dismally in identifying such qualities, greater reliance must be placed upon the chain of command to identify and recommend men who show promise, in order that they may be tested on the job. Experience has shown that such judgments are more reliable when they are made by commanders who must themselves direct the talents that they undertake to identify.

### **Juvenile Aid Policies**

Public and private agencies—police no less than others—vie with each other in trying to assure a wise and humane solution for the problems of delinquent



youths. Most of the social agencies have something substantial to contribute and their continued participation is therefore highly desirable and in fact essential. Yet there is no blinking the fact that the number and variety of participating groups raises problems of large administrative proportions. When the police undertake treatment of individual and family cases in the manner of a social agency, it comes into conflict with the private agencies, tends to hold on to its cases too long, and so loses its natural eminence in referrals—its basic task with children.

Most of the specialized features of juvenile delinquency investigations, prosecutions, and referrals are handled by the Juvenile Aid Bureau (JAB) of the Police Department. Nothing should be allowed to obscure the fact that JAB, the youth squads of the Detective Division, and the youth patrolmen now operating in the police precincts are first and foremost the agents of law enforcement. Their services to youths who get into trouble are secondary to this obligation.

The ability or willingness of private agencies to take cases from JAB is not clear at present. It is also not clear that JAB has made continuous and extensive efforts to refer all cases to agencies best able to assist. The New York City Youth Board asserts that it can take some cases from JAB.\* Private agencies can now receive subsidies for cases which are referred through the Youth Board; neither the Youth Board nor the subsidies were available when the service unit was first established. The ability of agencies to take added referrals should be tested by increased referrals by the service unit of JAB. Temporary assignment of specially

trained personnel to direct and follow up the district referral officers will prove desirable during the critical transition period.

Long-term treatment of cases by JAB's service unit should be abandoned. The significant fact is that JAB uses much the same methods in treating its cases as would be employed by other agencies. In short, it is moving steadily toward the development of a professionally trained corps of social workers.

JAB could advantageously take over the duties of youth patrolmen now operating as parts of the numerous precinct commands. A new unit composed of specially trained patrolmen and patrolwomen may then be set up in JAB's districts and charged with the systematic surveillance of those premises, areas, and resorts where delinquency manifests itself, thereby strengthening the systematic identification of delinquents and enlarging the scope of JAB's coverage. Assignments to patrol and investigate should be made on a geographical basis to expedite work and to profit from familiarity with each neighborhood.

When policies and programs for dealing with delinquency are more developed, a strong case could be made for transferring the youth patrol and investigation units to the command of the divisional inspectors.

### **Police Athletic League**

One of the media through which JAB approaches and maintains contact with the individual delinquent and pre-delinquent is the private but quasi-public organization known as the Police Athletic League (PAL). Each year the Police Department makes public solicitation of funds for this recreational agency.

\*ED. NOTE: An experiment on referrals is under way.



PAL solicitations are inherently hazardous because the funds are collected and expended by police without public control, public accounting, or public audit. Cost of promotion and collection is unknown, since the youth patrolmen in the precincts are responsible for local businessmen and other projects, while JAB officers perform many services both directly and indirectly. Ugly rumors of contributions by gamblers and prosperous hoodlums, though exaggerated or unfounded, do not pass entirely unregarded and are a further factor to be weighed.

PAL does not easily attract or hold the interest of delinquents, while the predelinquency status of many PAL members resides strictly in the realm of opinion, with no demonstrable basis for asserted relationships. Hence the crime preventive features of PAL's work are necessarily an uncertain factor.

This leaves the strictly recreational aspect to be considered. The City's public facilities are most impressive in their extent, and a question may be fairly raised whether police promotion of recreational work is justified in the light of unfavorable features already described. Immediate de-emphasis of the police role is in order. The crime prevention task of the Police Department in general and JAB in particular is big enough and difficult enough, without undertaking this collateral responsibility for administering a separate recreational program. Transfer of the work to public or private agencies can be effected without causing neglect of that part of the recreational field occupied by police in recent years.

### **Emergency Service Division**

The Emergency Service Division is unique in its organization and func-

tioning. An impressive total of 710 police, ranging from inspector to patrolman, is backed by 97 pieces of major equipment, including trucks, patrol cars, ambulances, amphibious planes, helicopters, and launches. All such equipment is serviced and maintained, and some of it is constructed, at shops manned entirely by police. Operating costs exceed \$3,250,000 and are rising.

When radio equipment was installed in precinct patrol cars, it became possible to mobilize traffic, detective, and patrol forces on a scale far greater than the emergency service trucks could boast, and to a substantial degree removed the need for that reserve. The crews of some emergency trucks accordingly were placed in specially equipped patrol cars where they could be available for response to emergency signals from radio dispatchers and also could perform the full gamut of police duties that arises in connection with motorized patrol. However, they are obligated to respond only to designated emergency signals by the Communications Division; and since they are not effectively subordinated to precinct commanders, they look to the Emergency Service Division for direction, which is provided only in major emergencies. Their doctrine is that they must hold themselves available for emergency duty and they accordingly avoid taking action that will require custody of prisoners, interrogation of witnesses, or appearances in court.

A fresh start is needed, based upon principles of unified command, avoidance of narrow specialization, non-duplication of functions, economical use of manpower and the availability of all mobile units in emergency situations. The following should be done:

- (1) Transfer 17 of the 20 emergency trucks to the Fire Department,



where they can be operated in the same manner as the rescue companion, without adding to Fire Department personnel.

(2) Retain 3 trucks with full crews in the Emergency Service Division, held on reserve for major emergencies and located in the critical spots covered by the emergency duty charts and mobilization plans.

(3) Distribute the radio emergency patrols among the 21 divisional inspectors.

(4) Discontinue all marine patrols except those conducted by launch No. 1 (39th Street, Brooklyn); No. 2 (Ward's Island); No. 6 (Fort Schuyler); and No. 9 (Pier A). Retain 2 launches for standby reserve. Any slack will be taken up by the U. S. Coast Guard which withdrew from many of its local duties when police elected to take them over.

(5) Restrict the Aviation Bureau's flying equipment to 2 helicopters. The Aviation Bureau operates 4 flying units and has 3 more on order. Numerical strength is 17 officers and men. One-half of their flights are for aerial mapping on behalf of the City departments. The balance of their duties is largely in handling complaints of CAA violations. Air rescue work can be performed by the U. S. Coast Guard which has 5 helicopters on order and in other respects is well equipped for the task.

(6) The ambulance service now conducted by the Fire Department for its own members can serve both uniformed forces.

Maintenance services should, of course, be adjusted to accord with these greatly reduced spheres of operation.

## AUXILIARY SERVICES

### Crime Reporting

During 1933 the New York Police Department began active participation in the nation-wide crime reporting program. For some years the accuracy of its crime recording dropped to lower and lower levels. Repeated efforts to secure a closer compliance with established standards fell short of their objective because of a marked laxity in crime records control in this City, and an unfamiliarity with the use and value of such management tools. New York's crime returns were thereupon excluded from national tabulations by the FBI on the ground that they were incomplete, unreliable, and misleading.

Police were obliged to arrange distribution of the force without the benefit of even reasonably reliable figures as to the volume of crime for the City as a whole, for the individual Boroughs,

or for divisions or precincts. Supervisory officers could not appraise the success of their subordinates in effectively disposing of cases, and even the ultimate recovery of identifiable property was greatly impaired.

After months of critical examination of these questions by the press and by civic bodies, and a penetrating analysis of recording procedures by the office of the district attorney of New York County, a change in the police administration was followed in October, 1950, by a quick reversal of earlier attitudes and a long postponed effort to comply with accepted standards and practical requirements. With that action, the number of certain types of reported crimes rose by leaps and bounds, thereby demonstrating the gross inaccuracy of previous totals. Reported robberies rose by 400 percent, assaults with gun and knife by 200 percent, larcenies by 700



percent, while burglaries zoomed to a level that was 13 times higher than that prevailing in 1948 and 1949.

At the request of the Police Commissioner, we undertook to check the accuracy of the new crime levels as a means for determining whether the partial measures adopted in October, 1950, under the preceding administration at police headquarters had produced a reliable procedure for crime reporting. We found that the crime figures tabulated between October, 1950, and October, 1951, were of respectable quality when compared with those of prior years but significant gaps still were in evidence at critical points. The Police Commissioner thereupon ordered all necessary steps taken to correct the situation.

Three major changes were made:

- (1) Central control over all criminal complaints was effected through prompt recordings made at a complaint desk in the police communications center for each Borough.

- (2) Precinct officers and detective squads, which are held primarily responsible for any police action that may be taken, were relieved of their decentralized control over initial recording, thereby removing both the temptation and the opportunity to suppress the reports of many cases.

- (3) The communications and records facilities were lifted out of the Detective Division and established as a separate and distinct service, which is officially indifferent to any rise or fall in the amount of crime.

The new procedures went into effect on January 10 and the returns for the first three months show some impressive advances over the levels recorded under the partial reforms of October, 1950. When compared with the corresponding months of 1951, the 1952 figures show an increase in aggravated assaults of 47 percent, robberies 73 percent, burglaries 118 percent, auto thefts

22 percent, and other larcenies 150 percent.

Such impressive rises, when superimposed upon the even larger increases that followed the 1950 reforms, do not represent an increase in crime but a vast improvement in crime reporting. Under these circumstances many crimes which would have been neglected are now investigated, much additional stolen property will be recovered, and many more guilty persons will be brought to justice.\*

### Motor Maintenance

In 1930 the Motor Transport Maintenance Division was placed under the general supervision of the commanding officer of the Police Academy. Pursuant to our recommendation, the Police Commissioner ordered the division transferred to the direction of the fifth deputy commissioner who is responsible for other property units. With an annual outlay of \$2 million, including new cars, equipment, and supplies, rigorous controls are necessary.

One-fifth of the division's personnel is drawn from the police force rather than from skilled maintenance men. Some of the supervising and operating police officers have spent years at their present tasks and due weight must be given to their experience. Yet it is evident that if more commercial background and skill in the management of motor equipment were available to the division, substantial improvements would result.

Aggravated conditions of space congestion and delays at the central repair

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\*ED. NOTE: The Committee on Uniform Crime Reporting of the International Association of Chiefs of Police has since then reviewed the situation and has recommended that New York City be readmitted to the national reporting system as of January, 1952. The FBI will take this recommendation under advisement.



shop on Avenue C have been largely eliminated within recent months, and with them the avoidable depreciation of inactive motor equipment has been checked. But substitution of mechanics for police, restoration of cost accounts and controls that were abandoned several years ago, and better scheduling in the new car deliveries which will obviate the need for costly storage space—these still await the application of corrective measures. Motor patrol units are back at full strength due to expedited repair schedules, but the dollar losses due to lax property controls still persist.

Because of the extent of operations, merger with maintenance operations of other City departments is not recommended.

### **Recovered Property Controls**

The law and regulations on turning over seized and recovered property to the property clerk as soon as possible are not observed, and procedures designed to assure full accounting and control are largely by-passed. Frequently the patrol precincts do not even report custody to the property clerk. Hence the property clerk has no notice that a car may be standing at a precinct station while awaiting a claimant or other disposition. Some of this laxity is doubtless due to lack of adequate storage space for cars that do come into custody of the property clerk.

Persistent inquiry failed to disclose that there ever has been a complete inventory of the property clerk's office. Cash audits are made from time to time but there has been none since August, 1950. Under these circumstances no assurance is offered that the existing property records correctly state the amount of property on hand. Annual

inventories of general property and semiannual audit of cash held for claimants are urgently required.

In a special Report to the Police Commissioner dated February 5, 1952, we directed attention to seven particular respects in which property in the temporary care of the Police Department was inadequately protected, with essential security measures ignored or neglected. A number of corrective steps were taken immediately. But the basic control measures are more far-reaching and have not as yet been applied. In addition, clerks may be substituted for police, and the entire staff should be drastically reduced.

### **Precinct Stations**

The Police Department currently maintains 120 police buildings, of which 84 are occupied as precinct stations. Of these, 18 stations are obsolete, but 3 are among the 14 stations that can be abandoned as a result of precinct consolidations proposed. However, the remaining 15 outdated stations will have to be replaced in some fashion.

Ages of these declining structures range between 42 and 98 years. More or less definite plans are afoot for replacing 10 of them at an average cost of \$426,500 for each site and building. But the whole record of precinct station planning, both in this City and elsewhere, shows that the need for such local headquarters is in constant flux. Many changes, such as shifts of population and transformation of neighborhoods, occur on relatively short notice and have an intimate bearing upon the need for stations. And motorized patrols and radio dispatch shrink the area of the City when emergency response is needed.



An adequate headquarters is clearly desirable after 47 years of growth and changing need, and a worthy setting for the Police Academy should enjoy early precedence. But many of the precinct stations cannot be replaced with any such long-range assurance. Some of them should accordingly be established under leases of relatively short duration. Others must be built for the purpose, with garage, cell block and adjacent space for off-street parking, without the extensive dormitory facilities and locker space once required.

### **Payroll Guards and Cash Escorts**

During the so-called crime waves that followed World War I, the Police Department guarded the payrolls of private enterprises and escorted cash deposits while en route to banks. In the course of time this departure was considerably expanded, particularly during World War II when crime, traffic, and motor vehicle accidents reached low levels. Even with a return to more normal conditions, the expansion continued. Armored cars manned by hired guards were afforded the extra security of detailed police. Contrary to regulations a radio motor patrol car with two-man crew occasionally would transport a messenger to and from a night bank depository. Sometimes the amounts to be transported were trifling, but special protection was nevertheless demanded and provided.

Duration of escort assignments ranged from 15 minutes to several hours of continuous service. Benefited parties made voluntary payments to policemen so assigned, thereby undermining the foundations of a sound discipline.

We directed special attention to this situation because the uniformed patrol strength of police precincts throughout

the City was siphoned off by such commitments. From 226 to 350 patrolmen were engaged full time on such duties. The assignments represented a large proportion of the patrolmen available for duty from 8:00 AM to midnight. The burden upon general protective resources was increasingly heavy.

These were the underlying facts that we reported to the Police Commissioner by special Report dated January 16, 1952. Shortly thereafter the payroll assignments were discontinued by his order. Escorts will be assigned only under unusual and temporary circumstances. As a result, available manpower for general foot patrol and other protective duty on the second and third tours has been increased by 25 percent or more.

### **Emergency Ambulance Service**

Twenty years ago this City's emergency ambulance service was of outstanding quality. Factors contributing to its decline include: (1) Nonemergency runs have increased to such an extent that much of the work is mere free taxi service. This has reduced its attractiveness to hospitals interns. (2) A heavy demand for physicians also operates to divert the interest of young practitioners away from this one-time proving ground for members of their craft; and (3) the annual fees allowed by the City to private hospitals that provide public ambulance service are substantially below current operating expenses.

The Hospital Council reviewed the situation in 1950 and concluded that it was not an appropriate service for the hospitals to conduct, that either the police or fire forces were better equipped for the purpose, and that since the Police Department operates the communications system, entire responsi-



bility for the ambulance service should be transferred to it. A more recent study made for the Mayor's Committee on Management Survey\* rested largely upon these findings by the Hospital Council and reached identical conclusions.

While our survey was in progress a bill was introduced in the City Council designed to transfer operations of the emergency ambulance service to the Police Department. In examining this question we concluded that, whatever the faults in the present system, police operation could not cure them. Police operation would be extremely costly, and many defects of the present system can be corrected by other means.

Detailed points in opposition were presented to the Police Commissioner in special Reports dated December 27, 1951; January 11, 1952; and January 21, 1952. Their conclusions were adopted and the views of the Police Commissioner were communicated to the Council, where plans to effect transfer of the emergency ambulance service were abandoned.

### Transit Police

When New York undertook public operation of its Rapid Transit System almost 20 years ago, the Police Department assumed responsibility for command of the transit police force. The officers assigned by the Police Department became subject to a dual control by the Police Commissioner and the General Superintendent of the Board of Transportation. The rank and file of transit police also found themselves under a similarly divided authority. The number of transit police increased

by leaps and bounds, while rising salary scales served still further to push the cost of subway policing to its present level in excess of \$2.5 million.

In 1950 the Transit Fact-Finding Board proposed outright transfer of the duty of protecting the City's transit system to the Police Department.\* Within recent months two firms of transit engineers also have jointly reviewed the functioning of the Board of Transportation for the Mayor's Committee on Management Survey, and they reached a similar conclusion.\*\*

With these conclusions we disagree. The subway system is not a municipal department or service. In organization and management it resembles a privately owned utility. The Board of Transportation is viewed as the agent of the State in regulating the work and conduct of its employees under a statutory grant of "all requisite and necessary authority to manage and direct the operation and maintenance" of the system "for the convenience and safety of the public." The fiscal difficulties of the Board of Transportation should not be allowed to foist an improper burden upon the Police Department, nor to confuse ultimate responsibility for transit management in all of its aspects.

Direct participation by the Police Department is confined to providing one police captain and six police lieutenants who command the sergeants and patrolmen of a wholly separate and independent police agency. Admittedly this arrangement poses some difficult

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\*"Report of the New York City Transit Fact-Finding Board," May 31, 1951, pp. 53-54.

\*\*"Joint Report of the Engineers on the Organization, Methods and Procedures of the Board of Transportation," by Day & Zimmermann, Inc., and Coverdale & Colpitts, November 5, 1951, pp. 75-76.

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\*ED. NOTE: See the Booz, Allen & Hamilton Report on hospitals, Chapter XV, Section 1.



problems of dual control, which can be wholly solved only by separation.

Five of the six police lieutenants can be returned forthwith from such detached service and assigned to other Police Department duties. A captain and one lieutenant should be left in charge of the transit police until such a time as the Board of Transportation may provide a commander and deputy commander for its own police force. Thereafter the Police Department's re-

sponsibility should be limited to rendering aid under emergency conditions, indoctrination of transit police, and occasional plainclothes details when unsatisfactory conditions in the subways require extra pressure. Relations between the two agencies then will be roughly comparable with those long established with the Port of New York Authority police and the various utilities, dock, and railroad police forces operating in the City.

## MANPOWER AND COMMAND

Numerical strength of the Police Department on April 22, 1952, was 19,457 against an authorized strength of 20,894. These totals stand at or near the highest point in the Department's history. Various figures are presented from time to time by police administrators, associations of police, and occasionally by civic groups and the press, indicating that the Department still is undermanned by 500 to 10,000 men. Such speculations have no substance and need not concern us here. Nor should effort be expended in comparing ratios of police to population. Viewed from this angle alone, New York's police quota is high. But the census totals reach only a little way in defining the task to be performed. Far more important are the crime rates and the volume of cases that must be investigated, the accident rate and the amount of preventable traffic congestion.

Some of the major indexes bearing upon required quotas — namely, the amount, distribution, and character of crime—have been so seriously defective and have so recently been placed upon a satisfactory basis in New York as to prevent any but general estimates con-

cerning present volume and probable trend. There is evidence too that no matter what the optimum size of the force, a considerable part of its manpower is not sufficiently productive, either because of inappropriate or unnecessary duties, or inadequate supervision, or faulty co-ordination and loose organic relationships.

Assignment of police to clerical and manual duties not requiring law enforcement skills has produced both civic and official action at various times during the past three decades. Yet even though the number of nonpolice employees has been enlarged, thereby releasing numerous police for protective duties, the uniformed ranks who perform clerical and manual tasks have also increased over the years. Much of that unfavorable trend is traceable to the rapid growth of special staffs and central services characteristic of modern police work.

The Police Department has tried to soften the effects of such diversions by assigning those who are temporarily on clerical and other light duty, currently numbering about 400 men. But because the total number of clerical and manual



jobs is large and increasing, light-duty men are under ordinary circumstances likely to win permanent status in their indoor assignments.

A job-by-job examination of services performed shows that in some of these clerical assignments law enforcement skill is also involved, or the operation must be conducted in secret, or the hours are unpredictable, or the display of police authority will be helpful in dealing with strangers, or a confidential relationship must be maintained. These have not been disturbed. But 1,126 patrolmen and 29 policewomen are performing duties that could be discharged by nonpolice personnel at substantially lower scales of pay, and with far less inside benefits. Such substitutes would

total 1,087, or 39 less than the present number of police assigned. Of them, 684 may be cadets or light-duty men. The balance of 403 may be filled from appropriate Civil Service grades.

About 150 of the foregoing reassignments were proposed by us to the Police Commissioner in a series of special Reports early in 1952, and provision was made for them in the 1952-1953 budget at an estimated saving of \$110,000, thereby laying a basis for numerous other reassignments of the kind here contemplated. The remaining positions can continue to be held temporarily by light-duty men.

Major manpower savings described in preceding sections include almost 1,000 men. The police budget estimates

TABLE I. NUMERICAL STRENGTH  
AUTHORIZED, ACTUAL, AND PROPOSED

Present Ranks and Grades	Number Authorized in 1951-1952 Budget	June 1952 Strength	Proposed Strength
Chief Inspector .....	1	1	1
Chief of Detectives .....	1	1	1
Supervisory Assistant Chief Inspector .....	1	1	1
Assistant Chief Inspector and Chief of Staff .....	1	1	—
Assistant Chief Inspector .....	5	5	5
Deputy Chief Inspector .....	14	14	—
Inspector .....	35	35	36
Deputy Inspector .....	46	46	—
Commanding Officer, Detective Bureau .....	1	1	—
Captain .....	172	166	113
Chief Surgeon .....	1	1	1
Deputy Chief Surgeon .....	1	1	—
Surgeon .....	25	25	25
Roentgenologist .....	1	1	—
Principal Veterinarian .....	1	1	—
Lieutenant .....	655	603	506
Sergeant .....	1,148	1,108	1,318
Patrolman and Cadet .....	17,647	16,278	15,025
Policewoman and Cadet .....	240	212	211
Assistant Superintendent of Telegraph .....	1	1	—
Uniformed Force Totals .....	19,997	18,502	17,243
Nonpolice Employees .....	897	816	1,219
Department Totals .....	20,894	19,318	18,462



for 1952-1953 anticipate a reduction of 150 in the authorized strength of the uniformed force to offset the nonpolice employees who were added, and an increase of \$2.5 million in estimated accruals. These last call for a progressive decline in the numerical strength of the force equivalent to the annual cost of 400 police. But since no employment layoffs are involved, the savings will accrue only as vacancies occur and are not filled. The accruals necessarily will be distributed throughout the coming fiscal year, and as a consequence the number of actual deferments in filling anticipated vacancies must total around 800 men of all ranks and grades. Hence the proposed redistributions and reductions in total strength are almost entirely provided for in the new budget.

If the proposed strength tables are adhered to in the budget for 1953-1954 and subsequent years, the manpower economies here contemplated will total over \$6 million annually.

Table I shows the authorized, present, and proposed strength of the Police Department. The so-called authorized strength is a mere total of the line-items appearing in the Police Department's annual budgets. Actual manpower allotments are always substantially lower, and these are imposed by broad and generalized estimates of accruals from vacancies, present or future, which must remain unfilled.

Current strength of the force, shown separately in Column 2, is a far more realistic figure, since it represents men and women for whom enough funds were appropriated to keep them actually on the job. But in the process any elements of balance that the authorized strength may have had are lost.

As Columns 1 and 2 clearly show, any vacancies in the higher ranks are

filled promptly, but as the scale proceeds downward the proportion of vacancies increases. Accruals therefore must be disproportionately realized from the ranks of patrolmen, and as these decline the ratio of officers to men soars. In presenting a proposed table of organization, as represented by Column 3, we have kept these related factors before us. The totals for patrolmen and policewomen then reflect the complex interplay of various added responsibilities and reduced manpower requirements. We contemplate a total numerical strength of 18,462, representing substantial additions to the quotas for nonpolice personnel and police sergeants, and reductions in nearly all other categories. These last do not represent weakened police defenses because the reductions represent manpower that either is wasted or is so inadequately supervised that its productive value is extremely doubtful. Not all of the proposed economies in manpower have been reflected in reduced quotas, and hence the actual strength available for foot patrol duty on the streets of the City can be materially increased.

The ranks of deputy inspector, deputy chief inspector, deputy chief surgeon, commanding officer of the Detective Division, and chief of staff may be omitted as vacancies occur because they will not be needed in the new structure of command and supervision. Special rates for acting ranks are omitted because they lead to evasions of the merit principle. The positions of roentgenologist, principal veterinarian, superintendent and assistant superintendent of telegraph are also omitted from the recommendations for the uniformed force pay scale. Duties of these positions are not of a police character and have only an indirect relation to



law enforcement. When the present roentgenologist and veterinarian retire they should be replaced at salaries that conform with the City's established rates for equivalent positions. The title of superintendent of telegraph, now unfilled, may be dropped immediately. When vacated, the title of assistant superintendent of telegraph also should be dropped.

A New Salary Plan

The police budget chiefly reflects the number of men and women employed, the salary scales applying to them, and the City's 75 percent contribution toward their early retirement. Equipment and supplies are relatively minor items of expense. Barring a major enlargement of the City's fiscal resources, police salaries are geared in inverse ratio to the numerical strength of the Police Department as a whole. Let the force increase faster than the City's rev-

enues, and the prospect of higher police salaries necessarily fades.

Police already enjoy a position superior to that of other comparable groups. Their maximum salaries are not only higher than the average for New York's citizens; they are higher than those received by other City employees with similar or superior qualifications, and they are higher than those received by police in other large cities throughout the world.

Police also enjoy larger opportunities for higher pay through competitive promotional examinations or noncompetitive assignments to special duties of many kinds. They enjoy unusual rights to retire on half pay after only 20 years of service. Such liberal arrangements involve a great deal of money; three-fourths of their pension contributions are provided by the City, only one-fourth by themselves. Annual leave compares well with vacations provided

TABLE II. A LONG-RANGE PAY PLAN FOR POLICE

Proposed Ranks	Years of Service in Rank							
	0-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16
Chief Inspector .....	\$13,000	\$	\$	\$	\$	\$	\$	\$
Chief of Detectives .....	10,500							
Supervisory Assistant Chief Inspector....	10,500							
Inspector } Chief Surgeon }	8,500							
Captain } Surgeon }	6,650	6,850	7,050	7,250	7,450	7,650	7,850	
Lieutenant* .....	5,250	5,450	5,650	5,850	6,050	6,250	6,450	
Sergeant* .....	4,450	4,650	4,850	5,050	5,250	5,450	5,650	5,850
Patrolman } Policewoman }	3,650	3,850	4,050	4,250	4,450	4,650	4,850	5,250
Cadet								
3rd Year .....	3,250							
2nd Year .....	2,950							
1st Year .....	2,750							
Chaplain .....	2,750	2,950	3,250	3,450	3,650	3,850	4,050	

\*In all promotions the appointee will be raised by at least one increment, despite overlapping rates for patrolmen, sergeants, and lieutenants.



by private employment; but the hours of duty are longer than those of most public or private employees, and night, weekend, and holiday duties are unavoidable. Attendance at court sessions is sometimes required during the hours provided for rest and relaxation. This can easily be corrected by allowing compensated time off.

Hazards to life, limb, and health are higher than those encountered in sedentary callings, but not so high as prevail among other out-of-doors workers, such as employees of the several Borough Presidents, the Department of Sanitation, or the Department of Parks. Liberal provision for disability retirement is assured for police who suffer injury or whose health is impaired, even though no connection with the performance of duty is established. Security of tenure is absolute, and the specter of seasonal layoffs causes no concern to the policeman and his family.

Our studies show conclusively that whatever equities may be involved in particular salary brackets, the new police scales recently adopted in connection with the 1952-1953 budget have carried the level of police compensation to a point where no further upward adjustments are required or justified. In short, the City has already chosen its police salary plan, complete with all ancient flaws. No room is left for alternative pay levels for present members of the force. Therefore no pay recommendations are made for them here.

A new salary plan is recommended, however, for future members. The scales shown in Table II are predicated upon the development of a career service with professional qualifications. Salary levels therefore match those in professions imposing stiff qualifications and exacting discipline. Terminal

rates for most ranks are higher than now apply and may be justified only if high selection and disciplinary standards are observed.

The plan starts with police cadets. The rank of patrolman becomes promotional and will not be a beginning rank as at present. The cost of cadet uniforms and equipment should be borne by the City. Patrolmen should also receive free issue of their initial outfits, but be required to make replacements at their own expense.

Based upon pay increment systems for commissioned officers in the nation's armed forces, overlapping rates are provided for the ranks of patrolman, sergeant, and lieutenant. Principal features assured are the increments to patrolmen over a longer period of years than now prevails, reaching finally to moderate professional levels. Similar extended periods for increments are applied to sergeants, lieutenants, and captains, with consequent increases in terminal pay and hence in pensions and annuities.

Certain pay incentives may be introduced by permitting additions or extensions in the increment system. For example, temporary increments of \$200 to \$400 may be provided for detectives whose work indicates that extra pay is justified. As already indicated, better methods of evaluating detective performance must be applied if the several grades are to be re-established on a firm basis. Other specialized assignments, such as juvenile aid work, may be more clearly defined, filled by intra-departmental examination, and provided with additional increments for the duration of the assignments.

Temporary positions above the rank of captain are established at flat rates. Regular increments imply a degree of



permanence in tenure that is undesirable in these top administrative positions.

Since the new pay plan is not intended to apply to present members of the force, it will only gradually replace existing salary schedules as present members retire and are replaced. For this reason, some years must elapse before it comes wholly into effect. Pay rates shown, therefore, are wholly prospective and will necessarily be subject to possible further changes in dollar values.

No salary plan should be permitted to obscure the need for City job reclassification, including both police and fire services. It is quite apparent that any system, no matter how carefully adjusted, will soon be invalidated by the current practice of granting midseason "spot" raises to preferred individuals or groups.

### **A Reorganized Structure**

This City's record shows that non-professional and professional police administrators have succeeded or have failed in about equal proportions. But the tenure of police leadership still leaves much to be desired. In an entire half-century only two Commissioners have served a full five-year term or more. Brief terms can impede growth and development, delaying many needed improvements. It does not follow, however, that Police Commissioners should be so strongly fortified in their posts that official discipline or popular dissatisfaction cannot reach them effectively. A longer tenure should come only by a recognition that police management is a practical art that flourishes on experience.

Through the years the police structure has adhered closely to an arms

and services plan of organization, with no real aid from the general staff principle. But increases in numerical strength long ago reached a point where the simple addition of new levels of command alone could not provide effective means for securing unity of action. Hence unless the general staff concept can be successfully introduced and applied, the force will continue to be handicapped by an organization that does not match its size.

The force started with two deputies, but the number, now seven, has been expanded beyond all reason. No common feature characterizes the deputies. Some have had police experience; others have not. Deputies range far and wide in varied roles and official combinations. They command enforcement units (License Division and Juvenile Aid Bureau), preside at departmental trials, operate supply services, direct special staff work (Legal and Engineering Bureaus), "co-ordinate community needs," and conduct inquiries into complaints made to the Police Commissioner. Certain of them supervise detective operations, traffic enforcement, and police conditions in one of the five Boroughs even though, as deputies, they are not in the chain of command for these activities, nor enjoy any means to make their supervising effective. Other duties that are more characteristic of deputies consist in serving as executive aide to the Police Commissioner, and in representing him in an *ex officio* capacity on numerous boards and committees.

Under our proposed scheme of organization, the seven deputy commissioners will be reduced to three, four, or five, depending upon circumstances.

A first deputy commissioner, who serves as executive aide to the Police



Commissioner and performs specially assigned tasks, will also supervise the analysis unit, performance budgeting staff, the Department Secretary (public relations), Bureau of Public Morals, and the supervisory and investigating unit; he will direct investigations into complaints affecting the police force and serve as Acting Commissioner in the Commissioner's absence from the City.

A second deputy commissioner will stand next in line of temporary succession. He will conduct departmental trials and supervise units handling legal matters, personnel records, the Medical and Surgical Bureau, the Police Academy and related activities, personnel investigations (preservice, promotional, and disciplinary), procedures for selection and promotion, and light-duty assignments.

A third deputy commissioner for supply and related activities will supervise police units responsible for accounting, contractual services, payrolls and related records, and the purchase, sale, temporary custody, maintenance, storage, and distribution of property in the hands of the police for whatever reason, including maintenance of plant and structures; motor transport maintenance division; custodian of headquarters building; cartography office; distributing rooms; motor, signal and communications equipment; printing, office supplies, fuel, uniforms, and weapons. Responsibility for old crime records now tied in with property management should pass to the recently established unit for communication and records.

Either a fourth deputy commissioner or an assistant chief inspector may supervise the License Division as now constituted.

Either a fifth deputy commissioner or an assistant deputy inspector may supervise the Juvenile Aid Bureau and conduct the highly important relations with public and private agencies that are equally concerned with the welfare of juveniles.

Under the present police organization, there are two major functionaries: (a) the Police Commissioner, who directly supervises most of the auxiliary services and special staff units; and (b) the Chief Inspector, who commands virtually all the law enforcement arms. Such double-domed patterns of control are awkward and troublesome at best; at their worst they are mischievous and destructive in their effects. The proposed scheme of organization restores the Police Commissioner to general and direct command of arms and services alike. Under this arrangement the Chief Inspector may properly be designated as the Commissioner's executive officer for the general field force and allied enforcement units.

Another notable weakness in present organization is the subdivision of local field command along specialized functional lines—patrol, traffic, and criminal investigation in particular having their own separate echelons of command. Specialized supervision reaches far out to field installations where these arms work side by side, in the same areas and often in the same buildings, but are responsible to separate functionaries back in Borough and headquarters offices. This results in narrowly functioning patrol forces, a shifting of responsibility for local investigations, and a fatally weakened front for controlling costly traffic problems of first magnitude.

Precinct captains now have a general responsibility but a dwindling force



with which to execute it. Because of public pressures, they must assign most of their second tour men (8:00 AM to 4:00 PM) to traffic duty, parking control, moving violations, regulating the traffic flow at school crossings and elsewhere, which absorbs much of the patrol strength; but other precinct men on the same or other tours of duty scarcely participate in a traffic problem that reaches into every part of the City and threatens to strangle its circulation. Throughout the City, but particularly outside Manhattan, the specialized traffic squad is spread more and more thinly in order to cover this widening breach in the police lines.

Similar defects hamper criminal investigations, most of which are covered in the first instance by precinct patrol cars. Thereafter the responsibility for going forward may shift so as to weaken the original drive behind police intervention. Low performance records in criminal investigations tell the story of investigative failures despite some superbly qualified units at detective headquarters and on the Borough staffs. Specialized detectives are needed when special skills are involved, but tens of thousands of run-of-the-mill investigations must receive more attention from more men if better results are to be achieved with these inconspicuous but nonetheless important cases.

Consolidation of field forces into divisional commands could mobilize a larger manpower for the most common types of law enforcement and, through temporary concentrations, could multiply their general effect.

Under existing circumstances, the cry is always for more and more men. When they are provided, as they have been repeatedly, the larger aspects of crime and traffic problems remain unsolved

because new specialized units and new echelons of command continue the nibbling process instead of being boldly and aggressively marshaled for frontal attack. A general field force will provide flexibility in the use of manpower that narrow specialization now prevents. It will permit tactical concentration and deployment on the days, at the hours, and in the places that effective regulation may demand, almost to the exclusion of other duties. The night hours in turn build up criminal challenges that must receive sharp attention. Morals violations, from bookmaking to dope peddling, are in the hands of a relatively small number of purveyors who could not long withstand the organized strength that a general field force could rally against them.

Traffic, crime, and public morals control all require skilled operatives, and these the Police Department has in unusual numbers and quality. They can be effectively employed by divisional commanders operating under the guidance of plans and co-ordination from the Chief Inspector and his staff. With overwhelming components of manpower on hand when and where needed, the Police Department will be in a position where its law enforcement policies can actually be enforced. The traditional information gathering and general surveillance procedures of circulating patrol need not be neglected. But neither should their monotonous and unproductive repetition be permitted to distract the attention of routine patrolmen from other, equally important tasks. Patrols are now conducted by all enforcement agencies, but nearly always for narrowly specialized objectives. Most narrow, perhaps, are those of the 40 radio emergency patrol cars already mentioned.



Under the proposed organization the Chief of Traffic will command traffic arms and services that are necessarily specialized and held separate and apart from the general field command. These include two mounted squadrons, three motorcycle precincts, the bus permits and safety bureaus, and the brake and safety appliance squads. The duties now performed by patrol and traffic units will become the obligation of the far more numerous and effective general field force into which the bulk of both patrol and traffic components will be combined.

The specialized Detective Division will operate much as it does at present, through its 17 Borough squads distributed among 7 Borough offices. Its 21 district offices and 82 precinct squads will be incorporated in the divisional and precinct commands of the general field force.

The seven Borough commands now placed over patrol divisions and precincts will disappear altogether from the scheme of organization proposed, since they will have no supervisory function to perform. Any value they may now have in reducing the span of control over 21 patrol divisions is offset by the added echelon of remote command that they interpose between headquarters staff and field commanders. The Chief Inspector's staff can easily provide more supervision and more co-ordination than is afforded by the present Borough commands.

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Under the new setup, divisional inspectors will need the support of large numbers of men in the continuous daily exercise of full and general command powers within their several areas. Precinct captains are in charge of local areas, but the inspectors must marshal and deploy all resources continuously and at will. Precinct lines now are artificial obstructions that are hurdled in emergencies or under conditions affecting the entire area. They should never be allowed to acquire the restrictive characteristics of jurisdiction. The authority of the inspectors commanding divisions, if freely exercised and guided by staff aides to the Chief Inspector, can introduce new elements of decentralized and generalized strength into an overcentralized and overspecialized police system.

A corps of staff aides to the Chief Inspector can do much to assure co-ordinated traffic control, criminal investigations, and routine patrol activities by the numerous units of the general field force. Other units supervised by the Chief Inspector as executive officer will include the mendicant squad, the Emergency Service Division, also the special staff units (Bureaus of Orders, Special Orders, Plans and Operations, and Correspondence) now attached to the Chief Inspector's office, and the Engineering Bureau, now supervised by the first deputy commissioner.

Other units will continue in their present direct relationship to the Police Commissioner.



## SECTION 2

**ACTION OF THE MAYOR'S COMMITTEE**

(1) The Mayor's Committee on Management Survey has received and transmitted to the Mayor and the public the Report of the Institute of Public Administration on the survey of the Police Department, prepared under the direction of Bruce Smith and entitled "The New York Police Survey." In addition, separate monographs entitled "Crime Records in Police Management," "Career and Salary Features of the Police and Fire Services," and "Traffic Administration in the New York Police Department" were also transmitted, and 40 memoranda covering many of the subjects dealt with in the New York Police Department Survey were submitted directly to the Commissioner by the Institute of Public Administration during the course of the survey. These technical supporting studies and memoranda were not submitted to the Mayor's Committee on Management Survey for approval and are not covered by the action of the Committee or the Committee's letter to the Mayor.

In transmitting "The New York Police Survey" to the Mayor, the Committee endorsed the findings and the major recommendations of that Report with specific comments and exceptions as stated in the memorandum, "Action of the Committee," transmitted to the Mayor and made available to the public on October 20, 1952. This action of the Committee followed complete agreement with the Commissioner of Police as to the 12 recommendations which are now being installed, or have been accepted in principle, and as to the need for further consideration by the Commissioner

and the department of the remaining recommendations of the consultants.

(2) Nine groups of the survey's proposals are already in effect or in the course of adoption and installation. They include: (a) vastly improved crime reporting and restoration of New York's crime statistics to a standard that is acceptable to the *Uniform Crime Reports*; (b) an accelerated motor maintenance that raises the number of motor patrol units in active service; (c) a wide variety of property controls and security measures for the property clerk's office; (d) elimination of the lengthy delays on police switchboards that had greatly impaired police effectiveness in responding to crime alarms; (e) an officially approved program for substituting 450 stenographers, clerks, mechanics, and laborers for police who are now assigned to such duties; (f) discontinuance of the costly and unnecessary assignments as payroll guards and money escorts; (g) a marked stiffening of disciplinary policies in police trials; (h) abandonment of plans to turn the emergency ambulance service over to the Police Department; and (i) rejection of the proposal that the Police Department assume exclusive responsibility for law enforcement on the City-owned and -operated rapid transit lines.

Three other groups of proposals have been approved in principle by the Police Commissioner, although no action has been taken as yet to put them into effect. Included are: (a) a radically revised training program for all police ranks; (b) an extensive plan to reduce manpower losses through administrative



controls over sick leave, disability, and retirement; and (c) the proposal for large reductions in the objectives and manpower of the emergency service division. This last proposal has been approved in principle, but final adoption will be withheld until the prospect for war or peace is clarified. Meanwhile steps will be taken to assure that the emergency service patrol crews are more effectively employed in general law enforcement duties.

All of these 12 areas of police management are important, and some of them are critically so. They will introduce or improve numerous and varied controls over personnel and property, raise the standards of police service at all levels, extend the factual bases for executive decisions and policies, substantially enlarge the manpower available for active law enforcement duties, expedite and increase police response to emergencies of all types, reduce the unit cost of police protection, and give the citizens the confidence that comes from accurate crime reporting.

(3) Still awaiting study and review by the Police Commissioner are the especially important proposals of the Report concerning the structural organization and staffing of the Police Department, and the distribution and functioning of some scores of interrelated units that are charged with uniformed patrols, traffic control, criminal investigation and detection, and juvenile aid. As to these no official commitment has been sought. Since they will involve a major reorientation of official policies and outlook, the police administration is entitled to more time in which to study their requirements and implications.

Among these far-reaching recommendations requiring study are the plan for a corps of police cadets and a major

realignment of Civil Service patterns, new salary scales, capital outlays for police structures, and the leasing of precinct stations in areas that are subject to rapid social changes.

(4) We insist that the survey Report taken in its entirety is a splendid endorsement of the program of modernization on which the New York Police Department is now launched under its present civil and professional leadership.

Those who have taken a few phrases here and there out of context with which to stigmatize the entire Department have misinterpreted the Report as a whole. No matter how good a department is, it can always be improved. The presentation of a program of improvement is no derogation of a department unless the department refuses to recognize the need for progress and fails to take action. In the case of the Police Department the action which has already been taken and is now contemplated is proof to the Committee that the Department knows where and how it can be strengthened and that it will take vigorous action. This will make a famous police organization even better.

(5) In our judgment, the time has now come for just such an effort to restore the effectiveness of the police force and to provide a larger security for life and property in this city. Nearly all of our citizens will join in approving that purpose, although opinions may differ widely as to the means by which it may be advanced, as was shown at the public hearings on the police Report. Some of the problems are admittedly difficult. The police survey Report analyzes each one and reviews the methods that offer promise of leading to solutions.

(6) The critical issue of police morale is examined from many angles. In mate-



rial rewards and benefits New York City has done more for its police service than has been attempted in most other cities; but despite these generous and costly additions, police morale has been depressed, although it is, we believe, improving.

A serious pay problem has been created because of unduly heavy payroll deductions and because of the recruitment of men with advanced family responsibilities at entrance pay rates designed for younger men.

Some basic changes demand attention. As an ideal, only the best of youthful police recruits should be selected from the many thousands who apply for appointment. Training for all ranks must be lifted above the monotony and routine that too often afflict it. Promotion up to the rank of inspector must be made on a full competitive basis of technical knowledge, practical experience, past performance, and demonstrated fitness for command. Existing disciplinary powers must be exercised. Until these things are done, there can be no swelling pride of craft, no implicit confidence in fellow officers, superiors, and subordinates, and hence no high morale to give life and inspiration to the necessary basic arrangements for organization and command.

(7) Better police protection also will depend upon new patterns of patrol distribution, a more rapid response to all types of emergency calls, more success in investigations, and greatly expanded programs for dealing with each day's duties and problems. More and better control of crime and street traffic, a widened and strengthened front for the faltering attack on juvenile delinquency—these are goals for the entire police force, not for narrow segments of it. To achieve them will require additional quotas of manpower at certain critical

points and some far-reaching changes in administrative structure and organization.

(8) Mere additions to the police complement without reference to the soundness of enforcement policies, or the means employed to marshal and deploy effective police strength, can fall far short of attaining objectives. This has been demonstrated over and over again. Diffusion of police among nonenforcement tasks has become so extensive that very substantial adjustments in police quotas can be realized during the current fiscal year. The manpower that is now misdirected or wasted exceeds by a considerable margin the added components that are clearly required for the various enforcement arms. Thus the net result will be more police at the busy intersections and on the back streets, but far fewer police engaged in clerical, mechanical, and minor nonenforcement tasks. Duties that do not contribute their full share to attaining safety and security must be modified or discontinued.

(9) Of particular importance will be the strengthening of foot patrols in those areas, on those days, and during those hours that require close surveillance. Mechanized patrol we have, and in sufficient quantity, but the equally essential services of foot patrol and traffic point-duty have been increasingly neglected. They can be restored at once with the aid of manpower that is now tied down on unproductive tasks. Such an extensive program cannot be accomplished without careful preparation. A few parts of it, particularly those relating to personnel controls, will require amendment of local laws. Others will involve changes in police regulations. But nearly all lie within the present broad authority and official discretion of the Police Commissioner.



(10) We especially commend the survey's proposals for a corps of police cadets that will tap new sources and improve the current recruiting and future leadership of the force. In addition to the duties suggested for the cadets in the survey Report, it is the belief of the Committee that cadets can be substituted for traffic and motorcycle officers in the enforcement of parking meter regulations and in the issuance of traffic tickets in restricted areas. We also earnestly direct the attention of the executive and legislative branches of the City to the urgent need for a better merit system for selecting and promoting policemen. This need for modern personnel practices has become evident in other parts of the City's service, but the situation with respect to police is especially compelling and the opportunities for large improvements are unusually attractive.

In view of the City-wide Civil Service reform program presented by the Mayor's Committee on Management Survey, we believe that the responsibility for carrying out the competitive Civil Service examinations for the Police Department should be handled by the Department of Civil Service rather than directly by the Police Department, although we agree with the police survey Report that the examinations should be developed and the tests given with much greater participation by the personnel officers of the Police Department. Such a reform is in accordance with our recommendations for the whole personnel system of the City. We agree with the Commissioner that the selection of inspectors should remain entirely within the jurisdiction of the Commissioner, as was in fact the recommendation of the survey Report.

The Committee believes that as to the issue of complying with medical qualification, the decisions of the Police Commissioner and of the Fire Commissioner should be final and that on the issue of character and moral qualification, the Police Commissioner should be given plenary authority to reject any applicant certified by the Civil Service Commission, authority to be exercised only in accordance with standards prescribed by the Commissioner in regulations approved by the Mayor.

(11) In view of recent public discussions, we call attention to the highly specific recommendations of the survey for strengthening the impact of the Department upon its major problems of crime and traffic control. While the survey Report was completed before the recent strengthening of the Department by action of the Mayor and the Board of Estimate, these recent changes in no way lessen the significance of the recommendations of the Report for the more effective use of its professional manpower. As the Report indicates, the "front line" strength of the Department will be increased ultimately when all of the recommendations of the report are carried into effect as follows:

(a) Uniformed men to be released of clerical and mechanical duties through the substitution of other Civil Service classifications and the addition of cadets .....	1,100	
(b) More effective deployment		
Elimination of unnecessary duty assignments .....	360	
Reductions in emergency service division .....	316	
Consolidation of 15 precincts and 2 patrol divisions .....	180	
Reorganization of detective division .....	221	
Reduction of certain quotas, overdue retirements, and termination of civil defense duty upon completion of organization .....	452	1,529
		<hr/>
Total strengthening of "frontline" police activities		2,629



The number of new clerical employees required to release uniformed men under these three recommendations was set at 1,038 by the Survey Report.

The major changes suggested under *a*, with the exception of the addition of cadets, are now being installed, and progress is being made also under *b*. These changes will greatly strengthen the effective force of the Police Department. It should be noted also that improvements in general supervision, more effective medical services, and sick-leave control will add from 500 to 600 men to the working force in comparison with past practices.

(12) In accordance with its policy, the Mayor's Committee takes no position with regard to the specific pay rates recommended in the survey Report for the uniformed forces, although we believe that the seven-step biennial increment plan proposed has much to commend it. We refer this as well as the rate schedules to the classification and compensation unit, the creation of which the Committee has recommended.

(13) We call attention to the fact that the table on numerical strength presented on page 46 of the Report is not intended as a recommendation as to the final total top strength of the Department, but rather as a table of proposed

assignment of ranks assuming a total force as provided for in the original 1952-53 City Expense Budget. While the Committee feels that the force must be enlarged, we concur in the conclusion of our consultant that the exact size of the force cannot be determined with any reasonable certainty until the now accurate crime, arrest, disposal, and other records are maintained for another year or more after the force is redeployed more effectively as recommended in the Report.

(14) The Mayor's Committee acknowledges its appreciation to Commissioner Monaghan and to the chief deputies and officers of the Department for their unfailing co-operation throughout the course of this survey. The vigor with which the Commissioner has proceeded to put into operation many of the most important recommendations of the survey and the Committee's endorsement of the survey following our many conferences with the Commissioner and with Bruce Smith, the director of the project on behalf of the Institute of Public Administration, are the best recognition we can present of the quality of the survey and of the extraordinarily effective, co-operative relationships maintained between the consultants and the Department.

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# **Appendix**



APPENDIX A

ESTIMATED BUDGETARY EFFECTS OF RECOMMENDATIONS

(Millions of Dollars)

Reference to Chapter in Vol. II	Description of Study	Consultants' Estimates of Eventual Effect of their Management Recommendations			Investment Savings <sup>c</sup>	Estimated Effect on the 1953-54 Expense Budget of the Consultants' Recommendations as Modified by Mayor's Committee Action	
		Additional Revenue	Operating Savings <sup>c</sup>			Savings & Additional Revenue	Additional Expenditure
IV.	FINANCE <sup>a</sup> .....	50.0	—		—	5.0	—
V.	CITY PLANNING (No estimate) .....						
VI.	PERSONNEL						
	A. Pensions .....	—	1.8		—	—	—
	B. Personnel Administration .....	—	(1.0) <sup>c</sup>		—	—	0.5
VII.	LICENSES						
	A. Licenses .....	3.7	2.2		—	1.4	—
	B. Dumping Privileges .....	0.8	—		—	0.4	—
VIII.	RECORDS MANAGEMENT						
	A. City Register .....	—	0.3		—	—	0.5
	B. Other Departments .....	0.4 <sup>b</sup>	{ 2.5 <sup>b</sup> 1.3		—	—	—
IX.	OFFICE MECHANIZATION						
	A. Department of Finance .....	—	1.3		—	—	—
	B. Payrolls .....	—	1.0		—	—	—
	C. Selected Departments .....	—	0.5		—	—	—
X.	FUEL CONSUMPTION .....	—	1.2		—	—	—
XI.	TRANSPORTATION (See Explanation of Estimates) .....	—	{ 15.4 16.3		(774.6) <sup>c</sup>	—	—
XII.	WATER SUPPLY						
	A. Leakage Elimination .....	—	(0.5) <sup>c</sup>		60.0	—	—
	B. Universal Metering .....	3.0	—		60.0	0.2	0.3
XIII.	EDUCATION .....	—	2.2		12.4 (12.4) <sup>c</sup>	0.5	—



XIV. WELFARE					
A. Medical Care .....	6.0	0.1	—	—	—
B. Finance & Accounting .....	—	5.0	—	—	—
1. State Administration .....	—	0.7	—	0.6	—
2. Procedural .....	4.3 <sup>b</sup>	11.3	50.9	1.0	—
} 3.0					
XV. HOSPITALS .....					
XVI. HEALTH					
A. Program & Administration .....	—	(0.5) <sup>c</sup>	—	—	0.1
B. Organization & Management .....	—	1.0	—	0.1	—
XVII. SANITATION .....	—	0.8	18.5	0.1	—
XVIII. FIRE					
A. Personnel .....	—	1.4	—	0.3	—
B. Training .....	—	(0.1) <sup>c</sup>	—	—	0.1
C. Organization & Management .....	—	1.5	1.6	0.2	—
XIX. POLICE .....	—	6.0	—	0.5	—
HEADQUARTERS RECOMMENDATIONS .....	—	—	—	11.7	1.5
TOTAL .....	—	—	—	22.0	3.0

<sup>a</sup> The Haig-Shoup recommended revenue program is not included in this table.

<sup>b</sup> Nonrecurring.

<sup>c</sup> Figures in parentheses indicate added expenditure rather than savings.



## EXPLANATION OF ESTIMATES

The consultant's estimates of the effect of their recommendations have not been totaled because of the overlapping of recommendations. The estimates of the effects on the 1953-54 Expense Budget were made by the Committee's Headquarters Staff after consultation with the City Budget Bureau, and they reflect, in addition to modification of the consultants' recommendations, time lags required to put the recommendations into effective operation, recommendations already adopted and put into effect and reflected in the 1952-53 Expense Budget, and reservations as to the magnitude of the consultant's estimates of revenue and of savings. Capital savings recommended by the consultants will not generally affect the 1953-54 Expense Budget.

### Chapter IV. Finance

The major revenue and State aid recommendations of the consultants are not included in this table. They are reviewed in detail in Chapter VII, Volume I.

In this table are reflected only those Finance Project recommendations of an administrative nature that would effect either economies of administration or revenue increases from existing sources through better administration. These are of a different character from the recommendations involving new sources of revenue.

The estimate shown for 1953-54 is made up of two items: from improvements in excise tax administration and the employment of additional staff, \$4 million; and from increasing the ratio of assessments on certain underassessed properties, \$1 million.

Placing water revenue on a revised "service at cost" basis, suggested as a management recommendation, would increase City revenues by not less than \$9 million annually. We regard this as a revenue recommendation rather than as an administrative recommendation, although it might have been placed in the latter category and included in this table.

### Chapter VI. Personnel

**A. Pensions**—The consultants' estimate of operating savings is for the eleventh year after putting the recommendations into effect. The savings are largely the result of the recommended change in Police and Fire Departments pension contributions, since recommended administrative economies are offset by the cost of providing pensions for the employees of cultural institutions. Because of the one-year lag in providing for pensions in the budget, there will be no savings in 1953-54.

**B. Personnel Administration**—The expenditure estimate is based on the consultants' recommendations that Civil Service Commission expenditures be approximately doubled, but because of the difficulty in recruiting competent personnel, only one-half of the eventual expenditure is expected to be reflected in the 1953-54 Expense Budget.

**C. Classification and Pay**—The Griffenhagen estimates on the cost of instituting their plan of classification and pay are not applicable in view of cost-of-living increases granted since their study, and of the changes which will be made in their plan as a result of the work of the Formal Hearings Board and the work of the proposed Classification Unit, and are therefore not included in the table. The consultants had estimated that it would cost the City \$15.6 million to put their plan into effect and, in addition, to give all employees whose salaries would then be one or more steps below the maximum, a one-step in-grade increase in salary. This figure is net, after deducting the present maintenance allowances which amounted to \$9 million at the time of the study. After the portions of salaries in excess of the recommended maximums are eliminated by retirements or resignations, the consultants estimated an eventual reduction from the foregoing of \$5.1 million. The cost-of-living raises recently granted included about \$25.8 million for the employees covered in the Griffenhagen study. Nevertheless, because inequities still remain, and because employees would still have to be given increases to bring them to the next step rates, Headquarters Staff has estimated roughly that some \$6 to \$8 million would be required if the Griffenhagen plan were superimposed upon the present pay structure.



## Chapter VII. Licenses

The consultants' estimate of additional revenue is based on an increase in license fees. The operating savings come from recommended changes in operating procedures. The City, upon recommendation of the Bureau of the Budget, has already adopted increases in license and permit fees estimated to increase revenue \$3.7 million, and the Bureau has proposed additional increases amounting to \$1.4 million. (The foregoing do not necessarily correspond to the types of increase recommended by the consultants.)

The \$1.4 million shown in the 1953-54 Expense Budget column is made up as follows: \$1.0 million pending proposals by the Bureau of the Budget, and \$0.4 million for operating economies which can be achieved by 1953-54. It is estimated that increased dumping charges will yield \$.4 million in 1953-54.

## Chapter VIII. Records Management

**A. City Register**—The consultants' estimate is for the year after installation (the net saving for the year of installation, after allowing for the cost of installation, is estimated at \$54,000) and assumes that the cost (estimated by the consultants at \$319,000) of microfilming present records would be met by Civilian Defense. The estimate of 1953-54 assumes that such cost will not be met by Civilian Defense, provides for additional costs of installation, and allows for the difficulty of utilizing released space immediately.

**B. Other Departments**—The consultants' estimates are based on a City-wide projection of the operations of five pilot departments. The revenue is from the sale of waste paper, the recurring savings from released office space, and the nonrecurring savings from released filing equipment. Since the nonrecurring savings and revenue have already been realized and full utilization of released space will require considerable time, no effect on the 1953-54 Budget is expected.

## Chapter IX. Office Mechanization

The consultants' estimates are for the year after installation. Although it is estimated that installation can be made in 1953-54, no budgetary savings for that year are indicated because of equipment costs and extra per-

sonnel costs necessarily incurred during the period of installation.

## Chapter X. Fuel Consumption

The consultants' estimate is net of fixed charges and maintenance costs and includes the cost of the recommended Engineering Supervision Bureau for two years. The gross savings mentioned by the consultants is \$1.6 million. The required investment as given by the consultants (\$4.2 million) includes the estimated cost of the bureau (\$146,250 annually) for two years and is amortized over a 10-year period. Refiguring on the basis of not including the cost of the Engineering Supervision Bureau in the amount to be amortized, but taking that cost as a yearly expense, yields a net saving of \$0.8 million for each of the first 10 years and \$1.2 million thereafter. Because of the time required to establish the Engineering Supervision Bureau and to implement the recommendations, no effect on the 1953-54 Expense Budget is expected.

## Chapter XI. Transportation

**A. Organization and Operation** — The consultants have estimated those economies which it should be possible to effect "within a year or two" at \$15.4 million, of which about \$7 million has now been achieved. One million of this is the result of a reduction in engineering costs charged to capital account and, therefore, although recurring, only indirectly affects the operating accounts. Also included is \$2.45 million for the transfer of transit police to the Police Department, which would not be a net saving to the City. However, these savings are gross of recommended expenditure of approximately \$6.4 million annually for five years for deferred maintenance and \$5.6 million annually for five years for rehabilitation of signal and other facilities. In addition, the consultants recommend that \$10 million be expended annually for 39 years for the replacement of rolling stock. Leaving aside the recommended expenditures for replacement of rolling stock, the net savings for 1953-54 after the deductions mentioned would be nil, if not negative.

**B. Power**—The consultants estimate that by 1959, when the modernization program recommended would largely be completed, annual savings in operating cost of approxi-



mately \$16.3 million would be possible and that these savings would increase thereafter. The estimated savings for the period 1952-1959 are placed by the consultants at \$54.7 million. However, these estimates do not consider the fixed charges on the capital program of \$239.5 million required to make the economies of operation possible, and are based on a comparison of the cost of generating the required power with the currently available equipment (assuming that were possible), with the cost of power generated by the modernized plant. In addition to the \$239.5 million for power plant modernization, an expenditure of \$85.6 million for repair and modernization of switching, substation, and other power facilities is urged as absolutely imperative. (The recommendations do not include the cost of facilities which would be required by the proposed Second Avenue line.) No comparison of the cost of City-generated power and purchased power is offered because of the present indefinite utility rate. The \$16.3 million annual savings estimated by the consultants reduces to \$7.2 million based on data given in the consultants' Report, but giving effect to fixed charges. On the same basis (i.e., after allowing for interest and amortization) the consultants' estimate of the aggregate saving for the period of 1952-1959 is reduced from \$54.7 to \$18.5 million.

It should be stressed that the consultants' estimates are based on the admittedly fictitious assumption that the current City facilities could generate the required power. Perhaps a more valid comparison might be made between the cost of generating power in the modernized plant as recommended by the consultants, and the cost of purchasing the required power. Such a comparison shows no advantage in generating power as compared with purchasing power at present rates—rates which, however, will inevitably be raised, probably sharply.

## Chapter XII. Water Supply

No estimates in the table concern the controversy over the Hudson River versus the Cannonsville project as a source of supply.

The consultants' estimate that there could be approximately a 300-mgd. reduction in the City's water-requirements through universal metering and adequate leakage control, with about one-half of the total reduction coming

from each method. Expressed in terms of reservoirs and dams thus not required but now definitely planned (Cannonsville), the capital savings are \$60 million for each method. The consultants also estimate \$3.0 million additional revenue could be obtained by regular testing of existing meters, many of which now underregister consumption.

**A. Leakage**—According to the consultants, adequate leakage control would require an additional expenditure of approximately \$500,000 annually. It is estimated about one-half of the additional inspection force can be recruited in time to effect the 1953-54 Expense Budget.

**B. Universal Metering**—None of the additional revenue from universal metering is included in 1953-54 Expense Budget column because of the time required to install metering. However, \$0.2 million additional revenue from the testing of existing meters is obtainable, allowing for additional staff and the testing of only a part of existing meters the first year.

## Chapter XIII. Education

The consultants' estimate is the result of a series of management recommendations. Not all would be attainable in 1953-54.

As to construction and the capital budget, the consultants (1) presented a list of six schools not needed as planned, estimated at \$12,461,700, but recommended that the funds thus saved be immediately invested in other needed schools; and (2) outlined new management procedures and organization for dealing with future construction planning and execution. While it was insisted that this would produce important economies in the future, no specific estimates were indicated.

While the Mayor's Committee on Management Survey took the position that the Committee would not pass on the individual schools, we note that important changes were made by the Board of Education and the Board of Estimate in line with the survey recommendations.

The Mayor's Committee endorsed the recommendations on construction procedures and organization and forwarded its action to the Board of Education and the Mayor in 1951. The action then taken produced demonstrable savings in school construction costs which



have been reported by the Co-ordinator as not less than \$3.6 million in the 1952 program alone. This was an 8.5 percent saving in the face of a general rise in building costs of 5 to 6 percent. Similar or greater annual economies in school construction costs will continue in future capital programs as the result of this one management improvement. This is not included in the above table, as the table lists for 1953-54 only the Expense Budget.

## Chapter XIV. Welfare

**A. Medical Care**—By complying with certain provisions of the Social Security Act, the City would be able to make use of the "pooled fund" method of providing for medical care. The consultants estimate (this estimate was made after their original Report was published) that use of this method, particularly if all possible nursing and hospital care are included, would result in the indicated additional revenue to the City from Federal grants. The operating saving is the result of procedural simplification which should be possible under the "pooled fund" system. However, State action is required before the City would benefit. Because of the necessary intergovernmental negotiations, no effect on the 1953-54 Expense Budget can be expected.

**B. Finance and Accounting**—The consultants give two mutually exclusive estimates of savings: (1) by the State's assuming responsibility for welfare administration, billing the City for payments under the present formula, but bearing the administrative costs itself; or (2) by procedural economies under the current intergovernmental arrangements. The action of the Mayor's Committee supported the latter. The estimates as given are net, that is, they give effect to State sharing, which would cut the effective net gain to the City by 80 percent. The estimated effect on the 1953-54 Expense Budget is only slightly less than the long-term estimate. However, it should be noted that many of the recommended changes require State approval.

## Chapter XV. Hospitals

The consultants' estimate of nonrecurring revenue is based on the collection of delinquent accounts and represents a reduction of \$4.2 million from their earlier estimate. The

recurring revenue is net of the recommended additional personnel and is based largely on charging employees for meals at cost. The operating savings and investment savings result from the recommended concentration of custodial patients in lower-cost facilities and from revision of admissions procedures.

The effect on the 1953-54 Expense Budget is entirely the result of partial implementation of operating economy recommendations. No allowance is included for the collection of delinquent accounts, because practically full recovery will already have been made during 1952-53.

## Chapter XVI. Health

**A. Program and Administration**—The consultants estimate increases in expenditure of approximately \$800,000 annually for fluoridation and \$200,000 for minor changes. The figures in the table are net, that is, they give effect to State sharing. The cost of fluoridation is not included in the 1953-54 figure, because the Mayor's Committee withheld full endorsement pending further engineering and cost studies and departmental economies.

**B. Organization and Management**—The consultants' estimates of procedural economies were considered not attainable in the immediate future by the Mayor's Committee except to a minor degree through mechanization.

## Chapter XVII. Sanitation

The consultants' estimate of operating savings is based on recommendations for abolishing section stations and motorizing supervisory personnel. The investment saving is based on recommendations for a downward revision in the incinerator program because of lower population and cost estimates. The estimate of the 1953-54 savings allows for economies already achieved and the time required to implement others. It should be noted that the consultants also estimate that adequate measures of operating performance might result in a 10 percent reduction in the payrolls involved. Since this estimate was based on the general experience of the engineers and the needed techniques were not identified in the Report, it is not assumed to be attainable in 1953-54.



## Chapter XVIII. Fire

**A. Personnel**—The operating savings are estimated on the basis of a comparison of the consultants' staffing recommendations and the Fire Department's *current* manpower, not its desired manpower. Since the reduction in staff would be made through retirement and resignation, only a part of the reduction could be accomplished by 1953-54.

**B. Training**—This is based on the consultants' estimate of the additional personnel required for an adequate Fire College, but it does not include the cost of more adequate quarters.

**C. Organization and Management**—The consultants' estimate of operating savings is the result of a series of management recommendations, including the assumption of the responsibility for theater fire safety by the owners. The capital savings result from the elimination of the proposed Brooklyn headquarters. The 1953-54 estimate allows for the time required to effect some economies and proposals for transfer of personnel released from some unnecessary duties to other assignments.

**D. Equipment**—The table does not include figures on required modernization of fire apparatus and equipment and necessary replacement of hose.

A 10-year planned modernization program for land apparatus, equipment, and hose was drawn up with the help of the Fire Department and representatives from other interested departments (Budget, Purchase, and Comptroller's Office). Extensive modernization and replacement would have been required, quite aside from any survey for efficiency and economy in operation. The cost of hose, a substantial part (\$0.9 million) of the total requirements, is urgently needed to come within the National Board of Fire Underwriters' recommended 8-year limit on hose age. Based on the Hutson recommendations as to staff and number of companies, the total program would call for \$7.8 million over the 10-year period compared with \$10.6 million if the staff and number of companies advocated by the Fire Department were used. In the first two years the expenditure under the Hutson plan would be \$0.9 million less than under the Fire Department plan.

For marine equipment, the consultants' recommendation would call for a capital expenditure of \$4.6 million over the next six years, after which one fire boat would be replaced every six years at about \$1.5 million per boat. This program, however, was not formally adopted by the Mayor's Committee, which recommended further technical examination of the matter.

## Chapter XIX. Police

The consultant's estimate is based on the acceptance of the normal and excess "accruals" as adopted in the 1952-53 budget, and the best possible deployment of the strength of the force thereunder. Almost all the proposed redistributions and reductions were provided for from the financial standpoint in the 1952-53 budget, though some still remain to be achieved. Those attainable in 1953 are estimated at \$0.5 million.

## Headquarters Recommendations

Expenditures for strengthened management are based on recommendations in Volume I, Chapter II, of the Mayor's Committee Report. The amount estimated for 1953-54 is less than the \$5 million recommended in Volume I because of the time required to recruit competent personnel.

Based on exploratory studies in five departments, Headquarter's Staff has estimated that a 7½ percent reduction in payroll can be achieved for the 1953-54 Expense Budget by an intensive manning-table analysis along lines outlined in Volume I, Chapter III, of the Report, exclusive of Fire, Police, teaching personnel, Health, Hospitals, Courts, Sanitation, Welfare, and Transportation. The total payroll for all other departments, including an apportioned cost-of-living increase, is \$156 million, exclusive of pension costs. On this basis the possible, immediate "belt-tightening" savings would be \$11.7 million. This figure should be considered an absolute minimum in view of possible reductions in the departments listed above. which, while they have been studied by the consultants of the Committee, may be capable of economies in areas not reviewed by the consultants, as suggested, for example, in the Trundle Report.



## APPENDIX B

# POPULATION OF NEW YORK CITY

In 1950 the population of New York City was 7,891,957. From 1940 to 1950, the population of New York City increased by 436,962 or 5.9 percent. While this increase is a substantial number it is the smallest percentage gain in the recorded census figures in 150 years. Even numerically, the gain is the smallest for New York since the decade of the 1860's.

The relatively small net gain in the population is particularly significant since it occurred in a decade when the birth rate was extremely high and the death rate was at an all-time low. In fact, the net gain was smaller by 142,709 than the excess of resident births over deaths during the same period. This indicates that 142,709 more persons moved out of the City than moved into it during the decade. This negative migration balance, the first in the City's history, may mark a turning point in the City's population.

### Composition and Shifts of the Population

In 1900 the City's population was young; the average age was 25. By 1950 the average age rose to 34. Children under 15 declined in proportion from 31 percent to 22 percent during the half century. At the other end of the age scale, those of 65 and older increased from 3 percent to 7 per-

cent. From 1940 to 1950 the age group 15-24 decreased by some 130,000 persons. These changes in age composition were similar to those occurring in the total population of the country.

The non-white population of the City showed an increase of 298,000 or 62 percent during the decade. The white population increased by 139,000 or 2 percent.

The non-white increment was due largely to in-migration rather than to the natural increase. The excess of non-white births over deaths during the decade was 71,000 while their balance of migration was 227,000.

During the decade 1940-1950 the white population of New York City (exclusive of foreign migration) showed an excess of out-migration over the in-migration, with a "deficit" of 547,000.

Foreign immigration into the City during the decade numbered 220,000, while the number of New Yorkers leaving the United States was 43,000, resulting in a positive balance of foreign migration to New York City of 177,000. The net migration balance, foreign and domestic, of the white population was a "deficit" of 370,000.

The data on in-migration from Puerto Rico are as yet incomplete. It has been estimated that the number of Puerto Ricans who came to this City since 1940 and did not return to their homeland was approximately 145,000.

The actual volumes of in-migration and out-migration were much greater

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Digest from "Population Today and Tomorrow in New York City," by Julius B. Maller, November 15, 1951.



than is indicated in the net changes in the population.

The incoming groups came largely from the South, from Puerto Rico, and from European countries. The outgoing families moved primarily to the suburban communities within the metropolitan area. Thus, while the pace of growth of the City's population has slackened, Greater New York is continuing to grow at a faster rate than the country at large.

The shifts of population within the City are of greater practical significance than is the net change in the total population. The outward movement of the population from the densely built-up central districts to the outlying residential areas within the boundaries of the City has continued during the past decade in spite of the rising cost of home construction and the frozen rent

situation which tend to discourage such mobility. These population movements create needs for schools, health and sanitation services, and transportation facilities.

The outlying districts of Flushing and Jamaica East, Queens, and the Westchester district of the Bronx showed the largest gains, from 22 to 52 percent. On the other hand, the districts of Brownsville, Bushwick, Williamsburg, Greenpoint, Red Hook, and Sunset Park of Brooklyn, and the Southwest area of the Bronx, and the West Side of Manhattan have lost population. Parts of the East Side of Manhattan, which in previous decades lost population, reversed the trend and showed gains during the past decade as a result of large scale redevelopment projects.

## POPULATION FORECASTS FOR 1960 AND 1970

Since 1910, estimates of the population growth of New York City have generally proved to be overoptimistic. In 1922, for example, the Board of Water Supply estimated that the 1950 population would be 9,735,000 and the 1970 population 12,694,000. As recently as 1937, the Regional Plan Association estimated that in 1950 the City's population would be 8,841,000 or about one million greater than the actual figure.

The constant error of past forecasts, in the direction of overestimates, was particularly true of estimates made by municipal departments. Since larger populations mean larger programs with larger budgets, the tendency to overestimate is understandable. The general assumption was that the City's growth would continue at the rapid pace of preceding decades.

Several historical factors have, however, contributed to the slowing down in the pace of the City's population growth: world conditions, particularly World Wars I and II; Congressional legislation restricting foreign immigration; the economic depression; and the long-range decline in the birth rate.

The growing congestion and poor housing in the older sections of the City were other powerful factors resulting in an outward movement of families toward the outlying sections and suburban communities, particularly with the development of rapid transportation. While the metropolitan area continued to grow at a rapid rate, the City's growth began to lose momentum.

In spite of the complexity of the problem, reasonable forecasts of the future population may be made. These



estimates, however, must not be solely an extension of the population trend of the past decades; they must be developed inductively on the basis of estimates of the major sources of population growth: the natural increase and the balance of population movement into and out of the City.

### Forecasting the Natural Increase

It is reasonably certain that the City's death rate will remain close to the level of recent years. The annual death rate in 1930-39 averaged 10.6 per 1,000 population; in 1940-49 the rate declined to 10.3 per 1,000, and the fluctuations have been within a very narrow range. The gradual prolongation of life resulting from medical progress has been apparently outbalanced by the constantly increasing number of the aged, among whom the death rate is obviously high. The best that could be expected is that in the 1950's the rate would show a slight decline, similar to that of the preceding decade. The death rate for the decade would thus be at the level of 10 per 1,000 or about 80,000 per year. Beyond 1960 it is likely that the death rate will gradually increase, when the present bulge in the age group 40-59 advances to the 60-79 year level. As far as its net effect upon the future growth of the City's population is concerned, the death rate is a neutral-to-negative factor.

As far as the birth rate is concerned, however, the factors are more numerous and complex and the potential fluctuations more pronounced. Nevertheless, it is possible to examine the basic factors and to make some reasonable estimates.

First is the question of whether the high birth rate of the 1940's will continue. The annual number of births

in this City rose from a low of 98,507 in 1936 to a high of 171,174 in 1947. That spectacular rise was due to four primary factors:

(1) The birth rate in the 30's was abnormally low because of the depressed economic conditions. Young people were reluctant to undertake the responsibilities of marriage and those who did marry refrained from having children. In many instances, marriages and births were merely postponed to take place at a future date when living conditions improved.

(2) The economic improvement in the 1940's accompanying war production resulted in a marked increase in marriages and births. These were further augmented by the marriages and births which had been postponed during the 1930's.

(3) The regulations regarding the draft for military service exempting husbands, particularly fathers, from military service induced many to marry at an earlier age and to have children at a shorter interval after marriage than prevailed in prior years.

(4) Several forms of aid by the government served as further encouragement of a rise in the marriage rate and birth rate. Free maternity care was given to wives of men in the service (EMIC), in addition to family allowances. Veterans' benefits included financial assistance for education. Young veterans anxious to continue their education were no longer deterred from marriage and raising a family. Tax exemptions for dependents and the extension of social security were other contributing factors.

Thus, the marked rise in the birth rate during the 1940's resulted from the concurrence of economic, social, and political factors. It must therefore be viewed as a temporary bulge, encompassing some of the postponed births from past years as well as some "borrowings" from the future. Marriages



consummated at an earlier age than usual in the 1940's would otherwise have taken place during the 1950's. The same applies to births. There is no indication that couples marrying at a younger age tend to have larger families. On the contrary, sociologists have shown that couples of any social-economic level generally decide upon the number of children they wish to have and usually have them at an early age. On that score alone it would be reasonable to expect a marked decline in the birth rate in the next decade.

In spite of the spectacular increase of births in the recent past there has been no change in the prevailing pattern of family size. The increase was primarily in first births of newly formed families. There has also been some increase in second and third births, representing the trend in the American family and the emerging attitude against one-child families.

An analysis of the wave of births in this City during the period 1935-1949 indicates that while the number of first and second births rose consistently the proportion of third and fourth births remained relatively unchanged, while those of higher order (fifth and over) actually declined from nearly 10 percent of the total in 1935 to less than 5 percent in 1949. In 1935, the first, second, and third births constituted 83 percent of the total; in 1949 these were 90 percent of all births. The incidence of very large families is continuing to decline.

Within the relatively narrow span of two decades the prevailing birth rates may have a complementary relationship, so that an abnormal deviation during one decade is followed by a "corrective" deviation in the opposite direction. The relationship between the two decades of the 1930's and 1940's appears to be of

this nature. For prediction purposes, therefore, the whole period rather than the last decade should be taken as a base to reduce the effect of short-range fluctuations.

**The Korean Situation**—The peak in the birth rate was reached in 1947. The subsequent decline, thus far, has been moderate and fluctuating. The beginning of the Korean situation in July 1950, set into motion again a substantial increase in marriages and births. The effect upon the marriage rate was immediate. Prior to July 1950, the number of marriages was somewhat below the corresponding figures of the previous year. But during July, August, and September 1950, just following the outbreak of the Korean conflict, marriages in this City exceeded those of the previous year by over 1,000 each month.

The impact upon births was registered exactly 9 months later. During the months of March through May 1951, the number of births exceeded those of the corresponding period in the previous year by more than 1,000 per month.

The effect of Selective Service policies and the public announcements of the deferment of married men and particularly of those having children was thus clearly indicated in the marriage and birth records. For the present, the effect appears to have run its course. Marriages increased for each month of the second half of 1950 and in January and March of 1951. But during the six-month period April through September 1951, the number of marriages was consistently lower than in the corresponding months of 1950.

The trend of births showed a similar pattern, though the effect was registered at a later date. During the first half of 1951 there were 5,732 more births than during the same period of



the preceding year. But during the third quarter of 1951 the number of births was slightly lower than the corresponding figure in 1950, and there is reason to expect a decline in 1952 with some acceleration of the declining trend throughout the decade.

In the light of the above, the estimate of the birth rate for the 1950's is that it will approximate the average rate of the past two decades, or a rate of 16.3 per 1,000 population. This will result in approximately 1,312,000 births.

The estimate of the death rate, as stated previously, is that it will be at the level of 10 per 1,000, or approximately 805,000 deaths for the decade. The natural increase for 1950-59 will thus be approximately 507,000.

### **Forecasting the Migration Balance**

During the past decade foreign immigration into the City numbered 219,618 and emigration 42,915. The net addition to the City's population from this source was thus 176,703. Since the volume of foreign immigration into the United States is rigidly controlled by legislation, it may be assumed that the number to be admitted during the 1950's will be similar to that of the past decade unless modified by Congressional action.

Domestic migrations present a more difficult problem because of the lack of primary data and the following factors determining the volume and direction of such population movement: the availability of jobs at good pay, the availability of housing accommodations at reasonable cost or rental, convenient transportation from the place of residence to the place of work, and in the case of young families, the availability of adequate school facilities near the place of residence.

The facilities for transportation, more than any other single factor, influence the volume and direction of the City's population growth. Rapid transit at low cost is the life blood of the metropolis; it made the City what it is today. Without it, upper Manhattan and the Bronx as well as Brooklyn and Queens would have remained sparsely populated. An illustration of arrested growth because of the lack of rapid transit is found in the Borough of Richmond. The time required to get to work rather than the distance was the determining factor in the development of the various communities which constitute New York City. Parkways and the facilitation of traffic are related factors, having a direct bearing upon the City's ability to hold its population and to attract families from other communities.

However, this is more than outbalanced by factors which make for outmigration, such as congestion of traffic and transportation, shortage of housing, noise, and overcrowded schools. There is also the sociological observation that once the economic and social status of a family has risen it tends to move away from the old environment. Thus, immigrants tend to concentrate in the congested areas of the City, but their descendants tend to spread out into sparsely populated areas. The same applies to those who come from rural areas to seek a better life in the City.

The trend of suburbanization continues, drawing people from the large City to the outlying communities with the promise of combining the advantages of City and country living.

In the past, the balance of the movements into and out of the City was positive, but in the last decade the balance of domestic migration was



negative, resulting in a loss to the City of 319,412 persons.

Since the negative balance of the last decade took place in a period of high income and full employment, it seems reasonable to expect a continuation of the trend. Domestic migration during the 1950's should not show a loss greater than that occurring in the 1940's—an out-migration excess of approximately 319,000 persons.

Forecasting the Population of 1960

The estimates of the 1960 population are based on the following figures (rounded out to the nearest 1,000) :

The natural increase, births in excess of deaths .....	507,000
Foreign immigration in excess of emigration .....	177,000
Domestic out-migration in excess of immigration .....	—319,000
<hr/>	
Net gain for 1950-59 .....	365,000
1950 population .....	7,892,000
Estimated population for 1960 .....	8,257,000

Estimates for 1970 are even more precarious, but following the above reasoning, it is likely that for the 1960's the natural increase will be about

330,000, based on a birth rate of 15 and a death rate of 11 per 1,000, and the foreign migration balance will probably be reduced to one-fourth of the gain of the 1940's, or 45,000. Domestic migrations, continuing the negative trend, will probably show a loss of about 480,000 (or 50 percent higher than in the 1940's). The net change will be a decrease of approximately 105,000. The 1970 population would thus be 8,152,000.

A drastic reversal in economic conditions or a worsening of the international situation is likely to have an adverse effect upon the City's population growth. However a marked liberalization of immigration policy would be reflected in New York, and an unprecedented program of improvements, including the introduction of rapid transit facilities to the Borough of Richmond, connecting it with Manhattan and Brooklyn, as well as to the remote areas of Queens, combined with effective solutions to the problems of traffic congestion, may very well reverse the present trend and inaugurate a new period of expansion.

SCHOOL ENROLLMENT

According to the 1950 census, enrollment in all schools, public and non-public, of the age groups 5 through 17, numbered 1,105,700. In the City's public schools, the September 1950 enrollment in all grades, kindergarten through high school of the same age groups, 5-17, numbered 846,443. In other words, of the total population age 5-17 enrolled in schools, 77 percent are enrolled in public schools and the remaining 23 percent attend non-public schools.

Among those of age 5-13, corresponding to the elementary school level,

the number enrolled in all schools was 794,400, while the public school enrollment of these age groups was 616,457, or 78 percent. Of the age group 14-17, corresponding to the high school level, the enrollment in all schools numbered 311,300 while those in public schools numbered 229,986, or 74 percent. Thus, among elementary school pupils attendance at non-public shools constitutes 22 percent of the total, while among secondary school pupils non-public school enrollment is 26 percent of the total.

Compared with 1940, the number of



children age 5-13 enrolled in all schools in 1950 showed a decrease of 3 percent. This decline is particularly striking since the total number of children age 5-13 increased by 2 percent during the decade. There was a decrease in the incidence of school enrollment; of the total group, 85 percent were enrolled in school in 1950, compared with 89 percent in 1940.

Since compulsory school attendance does not apply before the age of 7, it is possible that the decrease in school enrollment was concentrated in the group of age 5-6. Because of the overcrowded conditions in the schools, it is likely that a relatively larger number of youngsters were kept out of the kindergarten in 1950, as compared with previous years.

In the public schools of the City, the register in the kindergarten, including children under 5, increased from 40,969 in 1940 to 51,040 in 1950, an increase of 10,071, or 25 percent for the decade. But the number of children of kindergarten age (based on births in 1936 and 1946 respectively) increased over 50 percent during the same period.

The combined register of the kindergarten and elementary grades in the public schools decreased 16 percent during the decade. An important factor is the increase in non-public school enrollment. During the period 1940-49 some 46,600 pupils withdrew from the City's public schools to be enrolled in non-public schools. Although no corresponding figures are available on transfers from non-public to public schools, the figures corroborate the general observation of the expansion of non-public schools.

A drastic decrease in school enrollment took place in the age group 14-17, corresponding to the high school age

span. The number enrolled in school, public and non-public, declined from 404,980 in 1940 to 311,300 in 1950, a decrease of 23 percent. This decline, however, was due entirely to the general decrease in the age group 14-17, which declined from 466,585 in 1940 to 359,900 in 1950, a decrease of 23 percent. In the public high schools, enrollment decreased from 253,348 in 1939-40 to 174,312 in 1949-50, a drop of 31 percent. Transfers to non-public schools is the explanation of the relatively greater decline in the enrollment of public high schools.

A more exact comparison of the census figures on school enrollment and public school data for the age group 14-17 (rather than high school enrollment) in 1940 and 1950 reveals more clearly the marked rise in the incidence of non-public school attendance. Of the 1940 students in this age group, 83 percent were enrolled in public schools and 17 percent in non-public schools. By 1950 the proportions for this age group attending public and non-public schools were 74 percent and 26 percent respectively.

School and college enrollment increased considerably in the age groups 18-24, from 123,800 to 152,800, an increase of 23 percent. This is particularly striking since the total number of this age group declined from 902,820 to 848,300 during the decade. The proportion of this age group enrolled in school rose from 14 percent in 1940 to 18 percent in 1950. This reflects the large number of veterans enrolled in school and college under the "G.I. Bill" and the increased tendency to continue education beyond the secondary schools.

The exact relationship between public school enrollment by grade and the respective number of births of corre-



sponding previous years is significant because it facilitates the forecasting of the number of pupils to be expected in the near future. This is particularly applicable to the forecasting of enrollment in the early grades. In 1929 the 7-year-old pupils constituted 73 percent of the births of 1922 while the 1950 pupils of age 7 were only 54 percent of the 1943 births. The decline was due to the expansion of non-public schools, and the out-migration of families with children reaching school age. On the basis of the consistent trend, it is possible to estimate that the number of 7-year-olds to be enrolled in the public schools will rise to 85,000 in 1954, then decline to 73,000 in 1957.

### **The Impact of the Expanded Birth Rate**

The effect of the spectacular rise in births upon the enrollment in the City's public schools is just beginning to be felt. During the 10-year period 1941 through 1950 the number of births in the City was 1,425,341. This was 382,358 more than were born during the preceding 10 years. Furthermore, the anticipated decline in the birth rate has not set in, as had been expected, partly because of the Korean situation. In fact, the number of births during the first 10 months of 1951 exceeded that of the corresponding period in 1950 by over 5,000. The baby crop of 1951 will thus be greater than for any previous year except 1947.

The estimate of the enrollment in Grade 1 of the public schools for September 1956 is 86,000; the total enrollment in Grades 1-6 on that date will be 501,000. Thus the probable enrollment in September 1956 will be 73,000 above the 1950 enrollment (428,019).

The estimated increase in elementary

school enrollment by 73,000 is not a vague projection. It is based on children already born in the City. It should be kept in mind that in this estimate allowance has already been made for mortality of pre-school children, for out-migration from the City, and for transfers to non-public schools. In fact, the computations are based upon a decreasing rate of public school attendance. The ratio of enrollment to former births has been assumed to continue declining by one percentage point annually. The 1950-51 enrollment in Grades 1-6 is slightly above 60 percent of the births of 1939-44. It is assumed that by 1956 the corresponding ratio will have declined to 54. The estimated increase in enrollment is thus in the nature of a minimum.

To meet this inevitable increase within the next five years, there will be a need for school accommodations for 73,000 additional pupils, over and above the need for relieving the present state of overcrowding in certain schools, and for the replacement of unsuitable school facilities. Furthermore, new schools will meet the need only if the sites are pinpointed so that the schools are built in the areas where they are needed, without creating vacancies in existing schools.

Finally, it should be added that the above estimate of increased need deals only with Grades 1 through 6. No account is taken of expected increases in kindergarten enrollment. Furthermore, by 1955-56, Grades 7 and 8 will also begin to show increases corresponding to the rise in the birth rate in 1943-48. If the expanded kindergarten and Grades 7-8 enrollments are added, the increased public school register by 1956 will be approximately 100,000 above that of 1950.



TABLE I  
POPULATION OF NEW YORK CITY 1940 AND 1950, BY BOROUGH

Borough	Population		Net Increase 1940 to 1950	
	1950	1940	Number	Percent
Manhattan	1,960,101	1,889,924	70,177	3.7
Bronx	1,451,277	1,394,711	56,566	4.1
Brooklyn	2,738,175	2,689,285	39,890	1.5
Queens	1,550,849	1,297,634	253,215	19.5
Richmond	191,555	174,441	17,114	9.8
Total—NYC	7,891,957	7,454,995	436,962	5.9

TABLE II  
FIVE DECADES OF POPULATION GROWTH—NEW YORK CITY 1900 TO 1950

Years	Net Increase	Natural Gain (Births minus Deaths)	Balance of Migration
1900—1909	1,329,681	619,100	710,581
1910—1919	853,165	614,999	238,166
1920—1929	1,310,398	556,800	753,598
1930—1939	524,549	293,161	231,349
1940—1949	436,962	579,671	—142,709

TABLE III  
POPULATION OF NEW YORK CITY—CHANGES FROM 1940 TO 1950, BY BOROUGH  
Showing Natural Increase and Migration Balance

Boroughs	NET INCREASE 1940 to 1950	COMPONENTS OF POPULATION CHANGE	
		Natural Increase	Migration Balance
Manhattan	70,177	58,621	11,556
Bronx	56,566	120,439	—63,873
Brooklyn	39,890	249,218	—209,328
Queens	253,215	135,689	117,526
Richmond	17,114	15,704	1,410
Total:	436,962	579,671	—142,709

Sources: U.S. Bureau of the Census: PC -8, No. 31 A, released August 13, 1951. The data on resident births, deaths, and natural increase are from the records of the Bureau of Vital Statistics, Department of Health, City of New York. Figures are exclusive of non-resident births and deaths occurring in New York City and have been adjusted to correspond to the decade ending April 1, 1950, the date of the census.



TABLE IV

POPULATION OF NEW YORK CITY, 1900 TO 1950 WITH ESTIMATES FOR 1960 AND 1970

Year	Population	Change from Preceding Decade	Percent Change
1900	3,437,202	929,788	37.1
1910	4,766,883	1,329,681	38.7
1920	5,620,048	853,165	17.9
1930	6,930,446	1,310,398	23.3
1940	7,454,995	524,549	7.6
1950	7,891,957	436,962	5.9
1960	8,257,000*	365,000*	4.8*
1970	8,152,000*	—105,000*	—1.3*

\* Estimates

TABLE V

POPULATION OF NEW YORK CITY BY RACE—1950 AND 1940

Borough		Total	White		Negro		Others	
			Number	Percent	Number	Percent	Number	Percent
Manhattan	1950	1,960,101	1,556,599	79.4	384,481	19.6	19,021	1.0
	1940	1,889,924	1,577,625	83.5	298,365	15.8	13,934	0.7
	change	70,177	—21,026	—4.1	86,116	3.8	5,087	.3
Bronx	1950	1,451,277	1,351,662	93.1	97,754	6.7	1,861	0.1
	1940	1,394,711	1,370,319	98.3	23,529	1.7	863	0.1
	change	56,566	—18,657	—5.2	74,225	5.0	998	0.0
Brooklyn	1950	2,738,175	2,525,107	92.2	206,489	7.6	4,579	0.2
	1940	2,698,285	2,587,951	95.9	107,263	4.0	3,071	0.1
	change	39,890	—62,844	—3.7	99,226	3.6	1,508	0.1
Queens	1950	1,550,849	1,497,126	96.5	51,522	3.3	2,201	0.1
	1940	1,297,634	1,270,731	97.9	25,490	2.0	1,013	0.1
	change	253,215	226,395	—1.4	26,032	1.3	1,188	0.0
Richmond	1950	191,555	185,934	97.1	5,374	2.8	247	0.1
	1940	174,441	170,875	98.0	3,397	1.9	169	0.1
	change	17,114	15,059	.9	1,977	.9	78	0.0
New York City	1950	7,891,957	7,116,428	90.2	747,620	9.5	27,909	0.4
	1940	7,454,995	6,977,501	93.6	458,444	6.1	19,050	0.3
	change	436,962	138,927	—3.4	289,176	3.4	8,859	0.1



TABLE VI

## AGE AND SEX GROUPS 1950 AND 1940 POPULATION OF NEW YORK CITY

Age Group	Total	1950 Male	Female	Total	1940 Male	Female
All ages	7,888,400	3,796,000	4,092,400	7,454,995	3,676,293	3,778,702
Under 5 years	686,200	342,100	344,100	433,894	221,415	212,479
5 to 9 years	562,200	304,700	257,500	470,556	238,798	231,758
10 to 14 years	455,800	226,200	229,200	561,108	283,453	277,655
15 to 24 years	1,125,700	518,900	606,800	1,256,095	605,579	650,516
25 to 34 years	1,272,100	598,600	673,600	1,388,180	654,340	733,840
35 to 44 years	1,256,300	574,000	682,300	1,298,135	648,421	649,714
45 to 64 years	1,969,500	967,400	1,002,100	1,632,608	836,920	795,688
65 years and over	560,600	263,800	296,800	414,419	187,367	227,052
Medium age years	33.8	33.4	34.0	32.2	32.5	32.0
Percent	100	100	100	100	100	100
Under 5 years	9	9	8	6	6	6
5 to 9 years	7	8	6	6	6	6
10 to 14 years	6	6	6	8	8	7
15 to 24 years	14	14	15	17	16	17
25 to 34 years	16	16	16	19	18	19
35 to 44 years	16	15	17	17	18	17
45 to 64 years	25	25	24	22	23	21
65 years and over	7	7	7	6	5	6

Source: U.S. Census: The total of these preliminary figures by age groups is slightly different from the final figure for the whole City presented previously.



## APPENDIX C

# RECOMMENDED TITLES FOR CITY ORGANIZATIONAL STRUCTURE

New York City's governmental agencies carry various names and titles, depending on their structure, their history, and on sheer accident. Some are "departments," some are "commissions" or "boards," some "bureaus," some "offices," some "authorities," and some go by the name of the officer in charge. The names of the officers in charge vary similarly, with "president," "commissioner," "director," "chief," and other titles in common use.

When Governor Alfred E. Smith reorganized the New York State government he found even more confusion in the nomenclature of the State govern-

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mental agencies. But he cleared it up, and it has kept clear since. The Hoover Commission found a similar chaos in Washington and recommended a uniform system for the future. Action is now being taken along the lines recommended.

The real chaos in New York City nomenclature appears when the subdivisions of the separate agencies are examined. New York has a jungle of names, so that no citizen can tell from looking at the letterhead of a City activity, or from the title of its chief officer, or from the sign on his office door, or from the budget line under which he operates, what the rank of the agency is, or where it fits into the governmental picture.

The situation is illustrated by the following table.

TABLE I  
SAMPLE DEPARTMENT STRUCTURE AND NOMENCLATURE

Agency	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"
Top Level	DEPT.	DEPT.	BOARD	DEPT.	SYSTEM	DEPT.	AUTHORITY	DEPT.	DEPT.
Second Level	DIV.	DIV.	DEPT.	BUR.	DEPT.	OFFICE	DEPT.	BUR.	BUR.
Third Level	Office Comd. Bur. Unit Squad	Off. Dept.	Div.	Off. Force Service Shop	Section	Div. Proj.	Div. Sect.	Div. Off.	Div.
Service Agency	Office	Div.	Off.	Bur.	Sect.	Div.	Div.	Div.	Off.
Staff Agency	Off. Unit	Div.	Off.	Off.	Sect.	Div.	Div.	Off. Unit	Off.

Abbreviations: "A," "B," "C," etc. are sample departments. Their sub-units are shown in the columns. Dept.—Department; Div.—Division; Off.—Office; Bur.—Bureau; Proj.—Project; Sect.—Section; Comd.—Command.



While the word "department" generally means a major independent agency managed by a "commissioner" appointed by the Mayor the word can also mean a second-level subdivision headed by a "chief" or a third-level agency headed by a "director." A "bureau" is a top-level agency in one case; but it can also be the second-level subdivision, or the third level.

The most common sub-agency is the "division." But this can also be second level or third level; and many divisions are subordinate to other divisions, indicating that the name has no special significance. In some cases a bureau is divided into divisions, but in other cases a division is split into bureaus. "Units" appear at the second level or at the third level with no distinction. The service agencies dealing with payrolls, offices, accounts, etc. are divisions, units, offices, and sections with little rhyme or reason. And the staff agencies carry titles almost as varied.

This lack of system in structure is also found when it comes to the titles of the men placed in charge of the various units. The word "commissioner" generally means a top official appointed by the Mayor. But at this level we also have "director." The great confusion comes in the "divisions," which may be managed by directors, chiefs, heads, or various other titles.

### Recommendations for New York City

1. Whenever any agency is in process of reorganization, the effort should be made to move in the direction of the uniform pattern indicated below. In other words, immediate wholesale changes, merely for the sake of City-wide uniformity, are not recommended. But when it becomes convenient to

shift, a shift toward a single logical scheme should be made.

2. The "rule of common sense" must be applied. There are activities in which the formal scheme is less useful than a more descriptive, though nonconforming title. For example, the Fire College could go by that name rather than be renamed "Division of Fire College."

3. Major independent activities should be called Departments. The single appointed head of a Department should be called "the Commissioner of —," using the title of the Department. When the office of the Commissioner is divided, and the chain of responsibility passes through several Deputies, these Deputies will be known as "Deputy Commissioner for Administration," or "Deputy Commissioner for Operations," etc. This pattern would be applicable only in the largest Departments.

4. Departments should be divided into Bureaus, each under the management of a Bureau Chief, provided there are several sub-units for the Bureau and a considerable staff.

5. Bureaus should be divided into Divisions, each under a Director. In some cases, where there is no place for Bureaus, the Divisions will report directly to the Commissioner.

6. Divisions should be divided into Sections, where sub-units are required, supervised by a Head.

7. Sections will be divided into Units, where necessary, to be headed by a Supervisor.

8. Auxiliary departmental services, like accounting, payroll and personnel sections, budgeting, central office services, and transportation units will normally be "Divisions" of a Bureau of Administration.



9. Staff and advisory agencies will generally be called Units, such as Planning Unit, Analysis Unit, etc., each under a Director.

10. The term "Office" will be applied to regional geographic subdivisions, when a Department maintains a "Man-

hattan Office," a "Brooklyn Office," etc.

11. The term "Authority" will be reserved for an agency which is semi-independent in its work, particularly in rule-making, and is generally self-supporting from its own collections.



## APPENDIX D

# BUDGET APPROPRIATION FOR MAYOR'S COMMITTEE ON MANAGEMENT SURVEY

Project	Consultant	Budget Appropriation
<b>Finance</b> .....	R. M. Haig and Carl S. Shoup .....	\$ 225,150.00
<b>Personnel</b>		
Career and Salary .....	Griffenhagen & Associates .....	275,961.25 <sup>a</sup>
Recruitment .....	Richardson, Bellows, Henry & Company, Inc....	29,500.00
<b>Inspection and Licensing</b> .....	Worden & Risberg .....	53,000.00
<b>Records Management</b> .....	The National Records Management Council....	62,000.00
<b>Office Mechanization</b> .....	Barrington Associates, Inc. ....	57,500.00
<b>Fuel and Heat Conservation</b> .....	Percival R. Moses & Associates .....	41,000.00
<b>Transportation</b>		
Organization and operation .....	Day & Zimmermann, Inc. and Coverdale & Colpitts .....	335,000.00
Power .....	J. G. White Engineering Corporation .....	141,000.00
<b>Education</b> .....	George D. Strayer and Louis E. Yavner .....	190,000.00
<b>Welfare</b>		
Administration and decentralization .....	Public Administration Service .....	4,000.00
Finance and accounting .....	Crafts, Carr & Donaldson .....	12,000.00
Social investigation .....	McKinsey & Company .....	8,000.00
Intergovernmental relations .....	Institute of Public Administration .....	12,000.00
Printing of Welfare Reports and other expenses .....		3,000.00
<b>Hospitals</b> .....	Booz, Allen & Hamilton .....	80,000.00
<b>Health</b>		
Health programing; plus special study for Welfare project .....	American Public Health Association, Inc. ....	57,700.00
Business management .....	Barrington Associates, Inc. ....	31,500.00
Panel and conference .....		10,000.00
Printing Report .....		2,500.00



Project	Consultant	Budget Appropriation
Sanitation .....	The Trundle Engineering Company .....	44,900.00
Fire		
Training .....	J. W. Just	} ..... 26,000.00
Distribution of companies .....	A. C. Hutson	
Statistical study .....	David Valinsky	
Marine and portable equipment..	Harold J. Burke	
Management .....	Arthur Lazarus .....	29,000.00
Miscellaneous expenses .....		2,500.00
Police .....	Institute of Public Administration .....	85,000.00
Water .....	The Engineering Panel on Water Supply .....	40,000.00
Total for Consultants.....		\$1,858,211.25
Miscellaneous .....		52,538.75 <sup>b</sup>
Headquarter's Staff .....		285,500.00 <sup>c</sup>
Grand Total .....		\$2,196,250.00

<sup>a</sup> Includes \$17,461.25 supplementary expenditures for printing report.

<sup>b</sup> For use of the Bureau of the Budget to meet necessary and unforeseen expenditures not provided for by contract, including \$20,000 to retain small office and editorial staff during final deliberations of the Mayor's Committee.

<sup>c</sup> Includes two appropriations for two different contracts—one for \$100,000 and one for \$185,500. Of the \$25,000 unexpended under the first contract by March 1, 1951, \$15,000 was subsequently made available toward the completion of the entire survey.





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